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An integrative model of macro and micro level factors affecting budgetary control : a cross-cultural study

An Integrative Model of Macro and Micro Level Factors Affecting Budgetary Control : A cross-cultural Study

A Thesis Submitted to the University of Bristol for the Degree of Doctor of Philosophy

By

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In the name of Allah, the most gracious,
the most merciful

To my mother, father, wife,
and daughters

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Declaration

I declare that the work in this thesis was carried out at the University of Bristol. The work is original except where indicated by special reference in the text and no part of this thesis has been submitted for any other degree.

Any views expressed in the thesis are those of the author and in no way represent those of the university of Bristol. The thesis has not been presented to any other university for examination in the United Kingdom or overseas.

M. H. Mufti

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Summary

The effect of budgetary participation on managers' performance and satisfaction has received a considerable amount of attention over the past three decades. Accounting literature has witnessed many contributions that attempted to check the nature of these two relationships and to investigate the variables which may have clear or hidden effects on them.

Researchers went beyond accounting literature to study organisational and psychological theories and adopted some dimensions from each and tested these dimensions on those relationships. Scholars found different organisational variables (e.g. organisation size, environment uncertainty, technology, information asymmetry) and also behavioural variables (e.g. locus of control, budget goals difficulty and clarity, motivation, slack) which affected the relationship between budgetary participation and both managers' performance and satisfaction.

Culture has been also used as a possible contingent variable which may play a role in this conflicting area. Behavioural accounting research witnessed many efforts which investigated the effect of culture on budget-related behaviour. Nevertheless, the results were inconclusive.

Prompted by the inconsistent results reported in the previous work, this study was designed to provide more insight for this area through three main purposes:

- ◊ Constructing an integrative model which consists of eighteen variables which have been frequently used in the previous work.
- ◊ Testing the proposed model using sample of managers from different cultures.
- ◊ Testing the proposed model using two analytical approaches "moderating and intervening".

Twenty eight hypotheses were used to develop the proposed model. Some hypotheses have been replicated, whereas others have been developed because they

received little attention in the previous studies. UK and Saudi Arabia were chosen as sites to test the proposed model because they are culturally different. In Saudi Arabia two samples of managers Saudi (locals) and Arab (non-locals) were also used. The purpose of using two samples in Saudi Arabia was to see whether or not the results of the proposed model within the single country are different between locals and non-locals.

The results of this study showed that both macro and micro level variables interact with budgetary participation affecting managers' performance and satisfaction. The results have highlighted the importance of using an integrative model as a way to reconcile the contradictory results reported in the previous work. With respect to the culture, the results provided evidence that budgetary control practices are different between UK and Saudi Arabia in some aspects, whereas no cultural differences were observed in others. For example the results showed that the effect environment uncertainty on budgetary participation, and the effect of budgetary participation on managers' satisfaction are culturally independent. The results of the proposed model showed that some relationships (e.g. the effect of leadership style on budget emphasis) are different between locals and non-locals within the single country.

The results of this study also provided evidence that the contradictions in the previous work could be reconciled by using the appropriate analytical approach. Some hypotheses were supported using the moderating approach whereas others were supported using the intervening approach. Therefore, this study showed that these two approaches are complementary and both should be used either to support or reject a hypothesis.

Table of Contents

List of Tables

List of Figures

Chapter One

Introduction and Research Aims

1.1

1- Introduction and Research Aims

1-1 A brief review on the development of this area

The behavioural side of budgetary control has been seen as one of the most problematic issues in the accounting literature. This area has attracted the attention of researchers as it has either positive or negative impacts on implementing the objectives embodied in organisations' budgets. As long as budgets are set and run by people, the reactions of those people to what budget means to them should be considered. That is why more and more attention has been paid to this aspect.

The traditional way of preparing budgets was called "imposed budgets", according to which, setting budgets was the responsibility of top management and the lower levels had to do their best to accomplish precisely the required job. Of course, such a way of working was resisted by employees, as they perceived themselves to be treated as machines where instructions were programmed.

No one can tell accurately how the problems of using this imposed approach emerged. But much work in this area refers appreciatively to the early study of Argyris [1952] "*The impact of budgets on people*" who concluded from a field study conducted in four medium size manufacturing organisations, that budgeting could be related at least to four human relations problems.

1. Budget pressure tends to unite the employees against management, and tends to place the factory supervisor under tension.
2. The finance staff can obtain feelings of success only by finding fault with factory people. These feelings of failure among factory supervision lead to many human relations' problems.
3. The use of budgets as 'needlers' by top management tends to make the factory supervisors see only the problems of their own department. The supervisors are not concerned with other people's problems. They are not 'plant-centred' in outlook.

4. Supervisors use budgets as way of expressing their own patterns of leadership. When these patterns result in people getting hurt, the budget, in itself a neutral thing, often gets blamed.

The conclusions drawn by Argyris raised two questions for academics and professionals, which needed to be answered. The first was what are the results of such undesired side effects? The second how they could be avoided? The answer to the first question was, of course, low performance and satisfaction. The answer to the second question was believed to be involving managers in setting budget, which has been known until now as "budgetary participation".

Argyris [1953] noticed that managers' participation was not in its real sense, on contrary it was "pseudo-participation" which aimed to put much pressure on workers (more details in p.3.3). That is why Argyris stressed when participation is adopted, it should be real participation, otherwise it will lead to dysfunctional consequences.

The next important work was that of Hofstede [1968] "*the game of budgetary control*" who studied budgetary participation and other behavioural aspects of budgeting. The results of this work will be discussed in some detail in the chapters of literature review.

Much research has been conducted following Argyris and Hofstede. Each piece of research tried to contribute by defining the dimensions of this problem. The basis on which all of researchers worked was the relationship between Budgetary participation and both job-related attitudes (such as job satisfaction) and job performance. The results of those research were often in conflict as budgetary participation did not contribute positively to either performance or attitudes in all circumstances, on the contrary, sometimes it had a negative impact on these two variables.

Many researchers went beyond the accounting area, searching for either psychological (behavioural) or organisational variables which may affect these two relationships. The accounting literature witnessed a large amount of research contributing and adding new variables to reconcile the inconclusive results.

In the more recent literature attention has been paid to organisational variables as contingent factors. The structure of organisations are considered to be contingent on certain factors, and this approach has become known as the contingency theory of organisations. Technology, environment uncertainty, organisation size and diversity were considered as determinants of organisation structure. In turn, contingency theory has been applied to management accounting systems with regard to budgetary participation. Writers reported results of their empirical studies which supported their arguments that organisation size, decentralisation, environment uncertainty, technology affect the level to which managers should participate in budgetary process. In spite of this empirical evidence, there were some doubts that these variables would be universal. The results of some replicated studies uncovered the fact that these variables should be treated as situational rather than universal.

Many writers have argued that, as long as people set budgets, attention should be paid to the behavioural side as the most suitable approach to the issue of budgetary participation. For example, budgetary slack "under estimation of budget figures" was investigated extensively in the literature as it has bad consequences on organisational resources and hence organisational efficiency. Many empirical studies, as will be discussed later, showed that managers used this phenomenon to protect themselves against uncertainty. Of course such behaviour sometimes increased their satisfaction, but at the same time it led to dysfunctional behaviour as well. That is why some researchers (i.e. Dunk 1993, 1997] considered budgetary slack as a target "dependent variable" which, if top management knew how to deal with it would consequently lead to the optimal use of organisational resources.

The way by which top management evaluate their subordinates was introduced as a variable which may affect employees' behaviour. Hopwood's [1972] evaluative styles emerged in the 1970s as an approach which may affect managers' feelings toward the company they belong to. One of these evaluative styles was what has been known as "budget emphasis", which Hopwood referred to as "budget constrained or budget profit styles". Hopwood's study received great interest by researchers, and the accounting

literature witnessed a flux of studies which used these styles to investigate their effect on employees' behaviour.

Otley [1978] was one of the first scholars who highlighted the fact that there is no universal approach in this area. He extended the study of Hopwood to include performance, and concluded results which were contradictory to those of Hopwood. These contradictory results became a critical issue in behavioural accounting research as it will be shown in the next chapters. Each piece of research tried to add a dimension to this issue in order to highlight where the problem which might caused this contradiction lies

Many researchers used some organisational and behavioural variables to reconcile the results of both Hopwood and Otley. Environment uncertainty, information asymmetry, task difficulty and others were used as contingent variables. Finally, culture was also used as a possible contingent variable which may reconcile the results of Hopwood (USA) and Otley (UK).

During the investigation of the causes of the contradictions between Hopwood and Otley, other researchers did not forget the original problem which is the relationship between budgetary participation and either performance or satisfaction. Some researchers adopted psychological variables such as locus of control as a contingent variable affecting these two relationships. A series studies by Brownell [1981, 1982a] documented the effectiveness of this psychological variable on these relationships.

Once Brownell's approach was introduced to the literature, many researchers adopted it to test its generalisability in different cultures and industries. Their results provided limited support to Brownell's conclusions as some of them supported his results, while others disagreed with it (more details in chapter three). Again those results confirmed the need for the contingency approach.

Brownell left his approach for others either to support it or disagree with, and paid attention to other variables. He tried to reconcile the relationship between budgetary participation and performance using motivation as an *intervening* variable. He tested motivation in the context of the expectancy theory (Brownell & McInes [1986]).

Although he tried to attract the attention to the importance of this variable, he failed to find a contingent relationship between budgetary participation and performance based on budget motivation. Others (Mia [1988]) replicated his study using different approach "*moderating approach*" and provided evidence that budget motivation has a contingent role.

From 1990s onward the area of budgetary participation witnessed a large number of research projects. The direction of those researchers took two different approaches. First, replicating some of the previous works using either same or different methodologies (Frucot & Shearon [1991], Otley et al [1994], Griffin [1996], Dunk [1997]). Second, trying to reconcile the inconclusive results reported by some scholars using contingent variables (Harrison [1992, 1993], Dunk [1993, 1995a, 1995b, 1996], Choo & Tan [1997], Lau et al [1997], Subramaniam & Ashkanasy [1997], Lau & Tan [1998]). However, the chapters of the literature review in this study will explain all of these mentioned works in detail.

1-2 The issues of this study

The above review highlighted how massive attention has been paid to the behavioural aspects of budgetary control reflecting their importance. The conclusion and analysis of this review could be summarised in a way that reflects the issues of this study.

a) Budgetary participation is the variable to which much attention has been paid in this area. This variable has been tested on managers' performance, satisfaction, motivation, and slack and the results were inconclusive.

b) To reconcile these inconclusive results, much of the previous research investigated the contingent role of two groups of variables "organisational and behavioural" to provide possible interpretations which may help to determine where the problem lies. Few attempts have been made to combine between a large number of these two groups in an

integrative model that summarises systematically the relationships between these two groups in a way makes the picture much clearer.

c) There are two analytical approaches have been used to test the contingent roles on a particular relationship. These approaches are known as moderating and intervening[1]. Although these two approaches are complementary, much of the previous works used either. Very few attempts have been made to use these two approaches to test a particular model, so this area still unclear.

d) Although the results of some studies in this area showed that culture has a contingent role, most of these studies focused on few issues (evaluative style, locus of control) and ignored the others. Therefore, the effect of culture on many other variables still unclear.

e) Some studies which adopted a particular model and replicate it in a different culture did not replicate precisely (e.g. Frucot & Shearon [1991, Mia [1988]). In other words, those scholars used either different measures for their variables or different methodology. So, attributing the differences between the original study and the replicated one to culture may include some bias.

f) Although culture has been used as a contingent variable which affects the perception of a manager with respect to budgetary control practices, little attention has been paid to how two groups of managers from different cultures within a single country (locals and non-locals) will perceive a particular relationship.

This summary has shown that there are gaps in this area in many points. This research aims to fill in these gaps by conducting a study based on three directions as will be discussed in the next section.

1. These two approaches are fully discussed in chapter five.

1-3 The aims of this study

Promoted by the lack in the literature in the points discussed above, as well as the inconclusive findings reported on the previous works, the purposes of this study can be summarised as follows.

1-3-1 Constructing an integrative model. This research will construct a model which consists of eighteen macro and micro level variables which have been frequently researched in the previous works. The construction of the relationships between these variables in the proposed model will be based on first, a replication of some of the most common hypotheses which were tested in the previous works and produced inconclusive results in order to assess the robustness of their outcomes. Second, developing another group of hypotheses which have not, so far, received a considerable amount of attention. This model will summarise systematically the previous works in an attempt to reconcile them and make the picture clearer.

1-3-2 Examining the proposed model using samples from different cultures.

As the results of many studies indicated that culture has a contingent role in this area, so we can strongly argue that the results of testing some hypotheses are culturally dependent. Therefore, this research aims to test the proposed model in different cultures. Britain and Saudi Arabia have been chosen as sites to test the proposed model because they have different cultural dimensions, as will be indicated in the next chapters.

On the other hand, it was mentioned before that there is a lack in the literature regarding how two groups of managers from different cultures within a single country (locals and non-locals) perceive budgetary control. Non-locals, as will be shown later, work within three cultures. First, their own national culture, second, the host culture, and third, the culture of the institution they work in (organisational culture). Therefore, this research will also test the proposed model using a sample of non-local managers. Getting a sample of non-local manager was easier in Saudi Arabia as some companies employ functional managers from different cultures. So, in the Saudi site, a sample of

Arab functional managers have been considered in addition to the Saudi functional managers[1].

According to the previous discussion the proposed model will be applied on three different groups British, Saudi, and Arab functional managers. This will help to understand the nature of the relationships in the proposed model. It will highlight where are the similarities and dissimilarities between these three different groups with respect to the research hypotheses in order to provide evidence about the possibility to generalise the results of each one.

1-3-3 Examining the proposed model using two analytical approaches. The literature in this area used two analytical approaches to test the contingent roles of some variables, they are moderating and intervening[2]. Although these two approaches are complementary, many studies (i.e. Brownell & McIness [1986], Mia [1988], Kren [1992]) considered either independently. Few attempts have been made to use these two approaches to test a group of hypotheses to show which approach is more suitable for a particular hypothesis than the other. Therefore, this study will test the proposed model using these two approaches.

1-4 The importance of the study

The primary importance of this study comes from the importance of the area of this research itself. The reason why much attention have been paid to this area is that big organisations always apply budget systems to organise the different activities they run. Managers in different areas of responsibility may have different impressions about how the top management adopts and perceives such a system. As mentioned before, as long as budgets are set and run by people, it is important to know the perception of those people concerning what a budget means to them. Any misusing or misunderstanding to the nature of budget may lead to highly dysfunctional behaviour.

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2. When selecting the non-local sample, it was preferred to use a sample of managers who share similar cultural dimensions. Hofstede [1980], for example, combined between Arabs in his sample.
3. These two approaches are fully explained in chapter five.

The results of this study will highlight the ways in which organisations can control their managers' budget-related behaviour to obtain maximum benefit from applying their budgeting system. It can also give top management insights into which situational variables managers' participation in setting budgets need, and whether such participation increases their performance and satisfaction. If so, are there any variables that may moderate or intervene in participation to increase these relationships?

If, for example, the results showed that participation in setting a budget will lead to an increase in the managers' performance and satisfaction, top management may decide to use a more participative approach with their budgets. On the other hand, if top management found that participation increases managers' propensity to create slack when those managers have more information than the top management, the latter may try to find ways to decrease this slack or apply less participative approach.

In addition, this research will reconcile the results of the previous work as it will highlight the effect of culture on some variables. It will show also whether or not different analytical approaches produce different results. In addition the study will predict some relationships which have received little attention in the past and may be of value to future academic research in this area. Another importance of this study comes from applying the proposed model on managers from two different cultures within a single country, so that it will highlight whether host or national culture has much effect in this area. All of these aspects which this study is going to search will be a contribution to knowledge.

Chapter Two

Macro-Level Factors Affecting Budgetary Control

2.1

2- Macro-Level Factors Affecting Budgetary Control

Chapter one mentioned that various researchers have suggested that the relationship between budgetary participation and both performance and satisfaction might be contingent upon the presence of moderating or intervening variables. These moderating and intervening variables can be grouped into (1) macro-level variables and (2) micro-level variables. Macro-level is a term which refers to the organisational variables, whereas micro-level is a term which refers to the behavioural variables. These two terms have been used by some scholars in organisational and management accounting studies (e.g. Mealiea & Lee [1979], Frucot & Shearon [1991]).

Some of the variables have been classified as macro-level by some researchers and micro-level by others. In this study they have been classified based on the nature of the variables as follows. If a variable is related to organisational characteristics and/or their internal polices it would be classified as a macro-level variable (e.g. organisation size, technology, environment uncertainty, style of evaluation, leadership style, information asymmetry, and job difficulty). On the other hand, if a variable is related to the perception of the employees it would be classified as micro-level variable (e.g. budgetary participation, budget difficulty, budget clarity, locus of control, motivation, budgetary slack, performance, and satisfaction).

Chapters two and three will discuss these macro and micro level variables which will be examined in this thesis. The following discussion introduces the macro-level variables.

The universalistic view of organisational structure has been challenged by much researchers. The results of many studies showed that organisational structure is not a universal structure which is applied and applicable in all circumstances. Hofstede [1996, p.532] for example mentioned that "it is an illusion that any theory of social processes would ever gain universal approval". It has been argued in the organisation literature that the effectiveness of organisational structure depends on some contingent variables. This approach is known as the contingency theory of organisational structure.

The definition of the contingency theory is almost the same in all articles and books which discuss this theory. The general definition of this theory is there is no universal system applicable in all circumstances, the most appropriate system is one which takes into consideration situational variables.

The relationship between organisational structure and situational variables has been the guiding principal for major research programs in different countries (i.e. Hage and Aiken [1969], Pugh et al [1969]). In their research they attempted empirically to discover variables which may affect or may cause the variation in organisational structure. However, in this area many researchers introduced contingency models of situational variables affecting the structure of organisations.

The application of the contingency approach in organisation theory emerged before its application in accounting theory. Many authors (Gordon & Miller [1976], Hayes [1977], Otley [1980]) tried to apply this theory in the context of management accounting. Otley [ibid., p.413] for example defined the contingency approach to management accounting as,

> "... it is based on the premise that there is no universally appropriate accounting system which applies equally to all organisations in all circumstances, rather, it is suggested that particular feature of an appropriate accounting system will depend upon the specific circumstances in which organisation find itself".

Budgetary control, as a major part of the management control system, is affected by such contingency variables. These variables include size, diversity, technology, decentralisation, and environmental uncertainty. However, these organisational (macro-level variables will be discussed in detail to conclude appropriate hypotheses.

2-1 Size, Diversity, and Decentralisation

A conceptual definition of size is lacking, although there is considerable consensus on how it should be operationally defined. Blau [1972, p.3] defined it as "the scope of an organisation and its responsibilities".

Using Blau's own definition of size, many studies have reported that the increase in an organisation size and its diversity will increase the managerial problems in control, communication, and co-ordination. For example, Merchant [1984] mentioned that small organisations can often be controlled with informal control mechanisms such as direct supervision and oral communications. The argument of Merchant is intuitive as small organisations employ small number of workers, these small numbers can be easily contacted, organised and controlled. Conversely, larger organisations employ a large number of workers and consequently communication channels increase for co-ordination and controlling purposes.

Activities in large organisations are more specialised and formalised. As a result, controlling these activities will be either through centralising decision-making at top management, or decentralising decision making to lower levels. The first approach is likely to be particularly inappropriate for large organisations with many dissimilar activities. Barfield et al [1998, p.44], for example, support this as they argue that centralised organisations would have difficulty following a diversification strategy, because top management might lack the necessary and critical industry-specific knowledge.

Horngren et al [1997] distinguished between total decentralisation as "minimum constraints and maximum freedom for managers to make decisions at lowest level of an organisation", and between centralisation as "maximum constraints and minimum freedom for managers at the lowest levels". They discussed (p.902) many benefits of decentralisation. Some of these benefits are (1) greater responsiveness to local needs, and this means that sub-unit managers are better informed about their work than top management. (2) it leads to quicker decision making, and this means giving lower-level managers the responsibility for making decision can run decision quickly.

From the discussion of Merchant [1984] and Horngren et al [1997] it is possible to conclude that decentralisation is likely to occur in large organisations than small ones. However, some effects of such decentralisation and structuring firms on budgetary control systems were summarised by Merchant [1984, p.814] as follows:

- High participation by middle and lower management. He suggests that participation is consistent with the meaning of decentralisation. In more diversified firms, lower-level managers are more specialised and know much better than higher-level managers, that is why involving them in setting budgets can make budgets more realistic in addition to the motivational effects.
- Greater budgeting system sophistication results in more use of computers and staff.

The effect of size on budget-related behaviour was also investigated carefully by different researchers. In this area Merchant conducted many studies whose results confirm what has been discussed above. For example, in [1981] he investigated how differences in corporate budgeting style were related to corporate size, diversity and degree of decentralisation, and how different choices in system design and use were related to organisational performance and manager motivation and attitude.

Merchant's results showed that larger firms tend to make relatively greater use of more formal administrative, as opposed to interpersonal, controls. In all the firms, the more formal budgeting processes were generally received well by managers, but in larger firms they appear to be more positively linked with performance.

In another study Merchant [1984] provided empirical evidence about the effect of situational variables that may be systematically related to differences in approaches to budgeting. His study related budgeting system characteristics to three types of variables which are likely to vary within an organisation: production technologies, market factors, and organisational characteristics.

The results of his study (p.305) showed significant relationships between the indicators of formal use of budgeting and some of the situational variables. The organisational characteristics, size, functional differentiation, and the level of automation adopted by a company were positively related to more formal use of budget (such as more formal budget communication and participation in budgetary process).

Furthermore, in departments where the expected context-budgeting relationships existed, the performance tended to be higher than the departments where they did not; and thus, the results supported a contingency theory approach. Merchant considered his results very important because they provide a start toward what could become useful, empirically-based, prescriptive advice for practitioners.

Lyne [1988] studied the role of budget in 13 companies in UK. His results showed (p.206) the amount of participation by all sections of a company could be explained by factors such as company size, profitability, and degree of divisionlisation. At the same time the results showed that top functional managers had the greater influence on budget than other departments.

In another study in UK, Ezzamel [1990] focused as a part of the study on the effect of size on some budget characteristics such as participation and goal difficulty. The results were disappointing to his expectations, as he found that organisation size was not significantly correlated with any of the budget characteristics, particularly participation.

The results of Ezzamel may have limited application as his sample was composed of financial directors reflecting single department. This may explain why his results are different from those of Lyne [1988] whose sample reflected different departments. The concept of participation is not restricted only for financial directors as the master budget is the output of all departments in a company. So, when participation is investigated, it should reflect different departments within a company such as production, computer and research and sales managers, and not only financial managers. It is intuitive to argue that financial managers are involved in setting budgets regardless the size of an organisation.

The effect of decentralisation (which is suitable for some large organisations) on budgetary participation was also considered in various accounting studies. In large organisations, top management tend to delegate to lower managers' responsibilities and authorities to take decisions. It is also useful as a device of processing information of organisational units (see for more details Horngren et al [1997]). The literature suggests that participation is more likely to succeed in such organisations. For example,

Emmanuel et al [1990, p.175] reported that "participation is therefore not a universal panacea, but can be selectively useful in helping promote commitment to organisational goals. It is perhaps most useful in decentralised organisations".

In another study in this area, Gul et al [1995] argued that the effect of budgetary participation on managerial performance is contingent on decentralisation within organisations. The relationship between budgetary participation, centralisation and performance from their point of view is shown in figure 2.1.

Figure 2.1

Relationship between budgetary participation, decentralisation, and performance

	Decentralised	Centralised
High participation	High Performance	Low Performance
Low participation	Low Performance	High Performance

(adopted from Gul et al [1995])

Their results showed that there was a significant interaction between budgetary participation and decentralisation. Of course such a result is not surprising as it consistent with the concept of decentralisation as discussed by Horngren et al [1997] "maximum freedom for managers to make decisions at lowest level of an organisation". However, the most interesting result showed a positive relationship between participation and managerial performance in situations of greater level of decentralisation.

Although that the results of Gul et al [1995] was in the predicted direction it could be considered with some limitation as his sample was 36 personnel, operation and marketing managers from manufacturing companies. So, it does not reflect different kinds of business (e.g. finance, services, commercial) in spite of the fact that decentralisation is not restricted in manufacturing business.

The previous discussion indicated how the accounting literature is in conflict with respect to the effect of organisation size on managers' participation in the budgetary process. The majority of studies found a positive relationship between these two variables. The remaining studies generally had weaknesses in the nature of the sample used. Therefore, this research adopts the positive conclusions as shown in the following hypothesis.

H-I.1- In large firms there will be a greater level of Budgetary Participation by functional managers.

2-2 Perceived Environment Uncertainty (PEU).

Organisational theorists always emphasise that organisations have to adapt to changes in their environment so as to survive. Many contingency models imply that environmental factors determine the appropriateness of different organisation forms. Environmental factors composed of internal factors that lie within the boundaries of organisation, and external factors which are outside the boundaries of an organisation. An example of internal factors are (a) organisational personnel component (b) organisational functional and staff units component (c) organisational level component[1]. External factors consist of some items such as customer demands, competitors for market and resources, changes in low or polices by government, and technological factors.

It impossible to say that those factors are static in all circumstances, on the contrary, they change from time to time and from situation to another. Therefore, we can argue that environment could be uncertain. Planners always consider these environmental factors to adapt to any changes in these factors. Duncan [1972, p.314] defines environment as

> "environment is thought of as the totality of physical and social factors that are taken directly into consideration in the decision making behaviour of individuals in the organisation."

1. For more details about these component see Duncan [1972], p. 315.

According to this definition, environmental uncertainty is measured by how it is perceived by managers who are in charge in decision making. The relationship between actual and perceived environment uncertainty is not clear in most of studies[1]. Many studies focused on environmental uncertainty at the business unit/division level within an organisation. That means they referred to the portion of total environment that is relevant for organisational goal setting and attainment. However, this area is quite big and complex, so it is difficult to review it in detail in this part of the thesis. Therefore, attention will be focused only on perceived environmental uncertainty and its relation with budgetary control practices.

Ferris [1977a] for example tested the relationship between perceived environment uncertainty (PEU) and job satisfaction. His results (p.27) indicated that PEU was negatively correlated with job satisfaction in the sample he investigated (audit staff). Ferris's results contained many important implications. First, if perceived uncertainty impacts job satisfaction, then it should also be expected to impact the antecedents of job satisfaction (e.g. employees motivation). Second, perceived uncertainty may be a causal factor of diminished employee performance.

With reference to the effect of environmental uncertainty on budget related characteristics, many researchers argued that managers' participation in budgetary process is not necessary in all circumstances. For example Govindarajan [1986, p.498] mentioned that "in order to obtain favourable outcomes, high budget participation would not be needed under all conditions. Instead, participation should be contingent on the level of environmental uncertainty". Govindarajan focused on the responsibility centre's (functional department's) environmental uncertainty and the degree of participation by the responsibility centre manager in the decision which established and administered the budget for that centre.

The results of Govindarajan [ibid.] supported his argument that the greater environmental uncertainty, the greater the positive impact of participation in the budgetary process on managerial performance, and on managerial attitudes and

1. For more details about this issue see Tymon, et al, [1998].

motivation. He provided representative results which reflected different areas of responsibilities (e.g. production, sales/marketing, accounting, research and development, personnel management).

Ezzamel [1990], described above, provided the results of an empirical investigation about the impact of various contextual variables, such as perceived environmental uncertainty, on budget characteristics such as participation. Perceived environmental uncertainty appeared to have the strongest impact on the design of the corporate budgeting system. Particularly, the results (p.190) found that environmental uncertainty was found to be positively related with budgetary participation. Again Ezzamel's results could be considered to have limited application due to the nature of his sample which has been discussed in the previous section.

Kren [1992] examined the perceived level of job-relevant information (JRI) as an intervening variable between budgetary participation and individual performance. He viewed JRI as the information that facilitated job-related decision making. The results suggested that participation affects performance, not directly, but through JRI. This more positive effect of performance on participation was more pronounced when environmental volatility was high.

The results of the previous works provided support to the proposition that environmental uncertainty positively affect the level to which managers should participate in decision making such budgetary process. When environmental uncertainty is high, managers need a high level of participation in budgetary process in order to provide an accurate information to the top management. According the previous discussion the following hypothesis was derived:

H-I.2- The greater the environmental uncertainty, the greater the degree of participation in the budgetary process.

2-3 Technology

Researchers of organisational behaviour have frequently been attracted to the importance of technology as an important variable. The disagreement among researchers

has been whether this variable should be treated as an independent or dependent variable. Woodward [1965] and Perrow [1970] for example treated technology as an independent variable which exerted a causal effect on organisational control. Others such as Pugh, et al [1963] treat technology as a dependent variable and downgrade its importance in a theory of organisation[1].

Before introducing some research which studied the effect of technology on organisational structure and budgeting, a definition of this variable will be presented first. Perrow [1967, p.195] for example defined technology as

> "the actions that an individual performs upon an object, with or without the aid of tools or mechanical devices, in order to make some change in the object"

This interpretation of technology means that it ranges from non-automation to full automation. This point of view was adopted by many researchers as will be discussed later.

Hage and Aiken [1969] also defined technology in term of routiness. They investigated the effect of technology on the social structure. The study was conducted a study in 16 health and welfare organisations which found a negative high relationship between routineness of the work and the degree of participation in organisational decision making. That means the more routine the work-flow, the greater the centralisation of decision-making about basic organisational issues.

Bruns and Stalker [1961] studied the effect of technology on organisational design, in a sample of British companies. They found that when the rate of technical innovation was low, the successful firms were associated with "mechanistic" systems characterised by functional specialisation and detailed definitions of duties and responsibilities. Rapid technical innovation was associated with firms which had "organic" systems of management characterised by more flexible organisational arrangements and more participation (cited in Brownell [1982c, p.130]).

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1. See for more details Aldrich [1972, p.26]).

However, with respect to the effect of technology on management control system and hence budgetary control, Merchant, [1984, p.292] argued that if the production process was relatively routine and repetitive, task uncertainty is relatively low and co-ordination between the organisation's activities is easily accomplished with programmed interaction[1], and as a result, it is easier to use budgeting. He used process automation and product standardisation as dimensions for routine/non-routine organisations.

These two dimensions "process automation and product standardisation" were adopted by much researchers such as Brownell and Merchant [1990] and Dunk and Lal [1995] who examined budgetary participation and technology through these two dimensions. The effect of process automation and product standardisation are discussed below.

2-3-1 Process automation

The role of participative budgeting in the case of process automation is unclear. Merchant [1984] for example tested the effect of automation on the existence of a formal budget system. The results showed that for more highly automated departments, managers felt that they had greater influence over their budget plan. The study of Merchant used three items to measure participation in budgetary process: influence in budget plans, personal involvement in budgeting, and time spent in budget related activities. His results found a positive relationship between automation and the influence of managers in budget plans, whereas no significant relationship was found with the other two items.

Brownell and Merchant [1990] discussed two possible effects of process automation on budgetary participation. The first was based on Hayes et al [1988], and it suggested that process development, one form of which is increased automation, increases control over the manufacturing process. Automated control therefore could reduce the role of budgetary controls and hence managerial participation in budgetary process. The second approach (see Brownell and Merchant, p.389) suggested that

1. See in this area Dunk 1992.

automated manufacturing facilities, especially systems emphasising flexibility, provide the manufacturing manager with choices in such matters as work scheduling. To the extent that choices have cost implications, the manufacturing manager has more scope for meaningful participation in setting manufacturing budgets than in the case of traditional technology.

According to the discussion of Brownell & Merchant [1990] these two possibilities need further research to test them empirically using a sample to reflect different activities. This study adopts the second point of view of Brownell and Merchant for two reasons; first, in highly automated companies a company has various alternatives to the extent arrangement between these alternatives is a matter of negotiation between different responsibility centres in the company and such participation is more meaningful. Second, it was partially supported by Merchant [1984]. Therefore, the following hypotheses were derived:

H-I.3- High participation in the budgeting process will be found in firms where automation is high and vice versa.

2-3-2 Product standardisation

Literature (see Brownell and Merchant [1990]) suggests that the optimal input/output relation for highly standardised products is either known or can be learned from experience, as opposed to being a matter for negotiation between budget managers and their superiors. On the other hand, low standardisation implies little experience and difficulty in unambiguously specifying the proper set and order of inputs. Therefore participation in the second case provides means of pooling the experience and knowledge of budget managers and their superiors, and offers the potential to assist in resolving this ambiguity. Hence, high levels of budgetary participation will be associated with low product standardisation.

As with process automation, the proposition of the effect of product standardisation on budgetary participation has not received much attention empirically. For example, Merchant [1984] failed to confirm this argument when he used

instruments of participation which were discussed in the previous section (2-3-1). So, the literature is still unclear about the validity of this proposition.

From another point of view using these two dimensions of technology, Dunk and Lal [1995] tested the effect of technology as a moderating variable between budget participation and budgetary slack. Their sample was manufacturing managers from New Zealand firms. The findings provided support for the proposition that process automation and product standardisation influenced the relationship between participation and the propensity of manufacturing managers to create slack.

The Dunk and Lal [ibid. p.16] findings supported the argument of Merchant's [1985] that the nature of production technologies adopted in manufacturing departments can affect the relationship between participation and the propensity of managers of those units to build slack into their budgets.

The previous discussion showed how the effect of product standardisation on budgetary control practices, particularly managers' participation in budgetary process has not received a considerable amount of attention so far, and thus the results in this area still inconclusive. To provide more insight to this proposition, this research will replicate the test of Merchant [1984] and the argument of Brownell and Merchant [1990] that budgetary participation and product standardisation are negatively related in the way indicated in the following hypothesis:

H-I.4- There is greater participation in setting budgets by managers in firms which have low product standardisation than in firms which have high product standardisation.

2-4 Leadership Style

One of the major issues in organisational and accounting literature is the way superiors handle their subordinates. This issue has been considered and investigated in many studies, as it affects either directly or indirectly employees' performance and satisfaction.

The following definition of leadership may serve as a starting point for this discussion, "Leadership may be considered as the process (act) of influencing the activities of an organised group in its efforts toward goal setting and goal achievement" (Stogdill, 1950, p.4). This definition relates directly to the organised group and its goal. Stogdill reported that the minimal social conditions which permit the existence of leadership are the following:

- A group (of two or more persons)
- A Common task (or oriented activities)
- Differentiation of responsibility

The development of leadership theory was parallel to the development of organisation theory as was categorised by McGregor's [1960] theory *X* and *Y*, each of these theories has its own assumptions. For example McGregor [1960, p.33 & 34] summarised the assumptions of *X* theory as follow:

- The average of human being has an inherent dislike of work and will avoid it if he can
- Because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, threated with punishment to get them to put forth adequate effort toward the achievement of organisational objectives
- The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all

The leadership style according to this theory is premised on an authoritarian notion where reward and punishment are the basis for handling employees effort. This theory was criticised strongly by different organisational theorists, as the human side of employees must be considered to avoid their resistance toward organisation goals. It is

held that such effects may lead to dysfunctional behaviour and adverse consequences on performance.

As a result of the criticism which was directed towards theory *X*, many researchers claimed that human side in organisation theory should be adopted. A new approach to leadership was referred to by McGregor (p.47 & 48) as theory *Y*. The assumptions of this theory include: (a) the average human being does not inherently dislike work, depending upon controllable conditions, work may be a source of satisfaction or a source of punishment. (b) external control and the threat of punishment are not the only means for bringing about effort toward organisational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed. (c) the average human being learns, under proper conditions, not only to accept but to seek responsibility.

Different empirical studies supported theory *Y*, more specifically, the results of those studies suggest that higher performance is a result of superiors focusing their attention on (see Ezzamel 1987, p.74)

- the human side of their subordinates' problems;
- establishing effective work groups with high performance goals;
- ensuring that, subordinates are subject to low pressure rather than close supervision.

The effect of leadership on budget-related issues has not been ignored. For example, in an early study, Argyris [1952] pointed out how budgets affect the personal relationships of supervisory personnel. His study concluded several results which were discussed earlier (p.1.2).

DeCoster and Fertakis [1968] conducted a study which was focused on how supervisors use budgets as a way of expressing their own patterns of leadership. They used the two dimensions of leadership which were identified by Ohio State University. These two dimensions are Initiation Structure and Consideration.

"Initiation structure refers to leadership which is related to work performance and therefore process oriented or structuring. This is characterised by such actions as organising and defining the relationships between himself and the group, defining interaction among group members, establishing ways of getting the job done"

"Consideration refers to leadership behaviour which is employee oriented and is indicative of friendship, mutual trust and respect, and good human relations between the leader and his group"

DeCoster and Fertakis [ibid., p.239] hypothesised that high budget pressure, coincident with non-participation, would be concurrent with structuring behaviour on the part of the supervisor. In particular, s/he would be more likely to take greater initiative in assigning work, have a greater concern with production, (production oriented), allow fewer decisions to be made by subordinates, and behave in a manner associated with a directive superior. The amount of employee-oriented or considerate leadership behaviour, including such elements as friendship, and trust would be expected to be low when the supervisor experiences high budget pressure on his job.

They found (p.245) a positive relationship between budget pressure and initiation structure (.445, $p \leq .01$), that indicated when the initiation dimension of leadership increased, supervisors' budget pressure increased as well. Contrary to their expectations, they found that budget pressure has a positive relationship with consideration. They expected a negative-or at least a little relationship between these two variables.

Hopwood [1974] conducted a study related to DeCoster and Fertakis [1968]. He developed four evaluative styles, which will be discussed in detail in the following section, contrasting a budget-constrained style (a heavy emphasis on short-term, budget related results), with a profit conscious style (focusing more on long-term performance) and non-accounting style (accounting data is relatively unimportant in evaluating manager's performance). His results indicated that different combinations of the two leadership dimensions, consideration and initiation structure, resulted in varying

perceptions of evaluative style. For example high initiation structure and low consideration were found to be linked with subordinates perceptions of a budget-constrained evaluative style. The study of Hopwood did not test how style of evaluation affects managers participation in the budgetary process and the effect of that on managers performance.

Therefore, Brownell [1983] extended the study of Hopwood to test the effects of leadership style (consideration and initiation structure) and budgetary participation on managers' performance and satisfaction. The results suggested that considerate leadership behaviour has, at best, no effect on subordinate performance unless accompanied by high level of budgetary participation. It was also found that consideration has a major effect on satisfaction under both low and high level of participation, and it was slightly stronger under high participation.

The researcher believes that the literature in this area has ignored a possible contingent role of both consideration and initiation structure between budgetary participation and managers' motivation to achieve budget. This research argues that high budgetary participation interacts with these two dimensions affecting managers motivation to achieve their budgets. The direction of this effect will be positive for consideration and negative for initiation structure. On the other hand, this research argues as well that superiors are most likely to use a rigid style of evaluation (budget emphasis) when they are characterised as high initiation structure. These two arguments are the basis for the following two hypotheses.

H-I.5- The positive relationship between the level of participation in the budgetary process and motivation (hypothesis H-II.3) will increase when managers' superiors have a leadership style characterised by high consideration and low initiation structure.

H-I.6- Managers are more likely to be evaluated on the basis of budget emphasis if their superiors have a leadership style characterised by high initiation structure.

2-5 Style of Evaluation

One of the major issues in the area of budgetary control is the style by which superiors evaluate their workers. In the accounting literature there are four possible styles which were developed by Hopwood [1972] and they have been used by many research in this area, these styles are:

- Budget Constrained style (BC)
- Budget-Profit style (BP)
- Profit Conscious style (PC)
- Non-accounting style (NA)

These four styles were measured by Hopwood using eight items, the first style (BC) reflects the ability of a functional manager in meeting his/her department' budget, and it does not consider the costs. The second style (BP) reflects two dimensions, they are meeting budgets and concern with costs. The third style (PC) is concern with the profit in the long run, as it reflects the ability of managers to minimise the costs. The fourth style (NA) does not pay attention to any accounting measures, on contrary, it concerns with non-accounting measures such as the quality and the ability of a manager to handle his/her subordinates.

Hopwood's [1972] study was applied in one manufacturing division of a large American company, with a sample of cost centre heads. His results showed that cost centre heads who felt they are being evaluated on the basis of a Budget Constrained style (BC) reported a significantly higher level of job related tension than those who are evaluated on the basis of either a Profit Conscious or Non-Accounting style (see p.166). In contrast, when cost centre heads were evaluated on the basis of their ability to continually avoid unfavourable budget variances, success in satisfying this criterion results in lower job related tension. The BC evaluation style was also found to result in poor relations with supervisors and peers.

Hopwood' s study showed how different uses of accounting data in performance evaluation affected cost centre heads' perceptions of how justly their performance was

evaluated. For example when there was a tendency to use the accounting data in terms of BC, the respondents felt that their evaluation was less just than those reporting either a PC or NA. It should be noted that Hopwood' s [1972] study did not directly test the relation between supervisory style and managerial performance.

In a subsequent study Otley [1978] conducted a replication and extension of Hopwood [1972]. Hopwood's emphasis was on the effect that budget use had on managers' beliefs and feelings and not with the overall effectiveness of operations. As Otley [1978, p.125] mentioned, because Hopwood's study found a significant difference in the extent to which managers evaluated under different styles engaged in dysfunctional behaviour. Hopwood was able to conclude that it was likely that the tensions and manipulations noted under the rigid style of evaluation caused a deterioration in long-term performance. Therefore, Otley [1978] felt that it was important to extend Hopwood study to include the effect of style of budget use on managerial performance.

Otley conducted his study in a large organisation in UK, using a sample of profit centre managers. His results showed that the style of budget used did not affect job or budget related tension, nor did a budget-constrained style decrease job ambiguity. These results were contradictory to Hopwood's results. Otley explained these differences in terms of the appropriateness of the budgetary measures of performance for the independent operating units studied.

Otley [ibid., p.146] also found that a particular style of evaluation by group managers was conditioned partly by their own managerial philosophy, but it varied from one unit to another according to the toughness of its operating environment and its size and profitability.

Some scholars argued that the differences between the Hopwood and Otley results may be explained by the nature of the environment which faced mangers in each sample. Therefore, they attempted to adopt environmental uncertainty as a situational variable which may reconcile the results of both Hopwood and Otley.

Hirst [1983] for example investigated the effect of different uses of accounting performance measures on subordinate tension and social withdrawal in both high and low task uncertainty situations[1]. His results indicated where task uncertainty was high, subordinates reported an increase in tension as reliance on accounting performance measures increased. Where task uncertainty was low, as reliance on accounting performance measures decreased, subordinates reported an increase in tension. Although the first result was consistent with that of Hopwood's, the second result was inconsistent with Otley's results as he found no relationship between reliance on accounting performance measure (RAPM) and job tension.

It worth drawing attention to the fact that Hirst [ibid.] used a measure of RAPM which was developed by him. He argued (p.598) that the measure developed by Hopwood [1972] and used by Otley [1978] and Brownell [1982] was specifically suitable for manufacturing setting and not for a non-manufacturing setting. The researcher disagrees with this point of view as the eight items of Hopwood were not restricted to manufacturing firms. In a subsequent study, Hirst [1987] used the measure of Hopwood in a large property development and management corporation. So, the results of his [1983] were limited as the measure he used was different from Hopwood and Otley and its validity was not established.

In another attempt, Brownell [1982b] conducted a study to reconcile the results of Hopwood and Otley. He hypothesised (p.13) that direct associations between leadership evaluative style and performance should not be expected because the relationship will be moderated by budgetary participation. The results confirmed that a budget-focused evaluative style was most effective under conditions of high participation, but was ineffective where participation was low. Brownell's sample was a single firm, so, the generalizability of his results was limited and open to question.

Hirst [1987] replicated the study of Brownell [1982b] to examine whether its results are generalizable beyond the firm he studied. In contrast with Brownell's study, Hirst did not find an interaction between budget participation and budget emphasis

1. See appendix B for the definition of social withdrawal.

affecting job performance. In another attempt to reconcile the results of Hopwood and Otley, Govindarajan [1984] developed a contingency framework which is shown in the following figure.

Figure 2.2

Degree of reliance on subjective approach in performance evaluation under high-low levels of environment uncertainty

Environment Uncertainty	Low	High
High	non-congruence Lower organisational performance	congruence Higher organisational performance
Low	congruence Higher organisational performance	non-congruence Lower organisational performance

(adopted from Govindarajan 1984)

The results of Govindarajan supported his contingency framework, as it showed that superiors of business units which faced higher environmental uncertainty used greater subjective judgement in performance evaluation, whereas superiors of business units which faced lower environmental uncertainty relied heavily on financial data in performance evaluation.

Dunk [1989] argued for a possible contingent role for budget emphasis between budgetary participation and performance. His results were contradictory to his expectations. Although he had expected a positive role for budget emphasis affecting managers performance, his results reported a negative effect of budget emphasis between budgetary participation and performance. More specifically, the results suggested that high (low) participation together with high (low) budget emphasis lowers managerial performance, rather than increasing it.

From another point of view, Ross [1995] tested the effect of budget emphasis and environment uncertainty on job-related tension. He hypothesised that under conditions of low uncertainty, budget emphasis would result in lower levels of job related tension than the other evaluative styles (profit conscious or non-accounting style). Again he

hypothesised that under high uncertainty, budget emphasis would result in higher levels of job-related tension than other evaluative styles.

His results (p.7) showed that when low environment uncertainty was perceived, job-related tension had no effect on the style of performance evaluation. Consequently the results were inconsistent with his hypothesis. However, the results suggested that when high environment uncertainty was perceived, the use of a non-accounting style resulted in higher job-related tension than the other of evaluation styles.

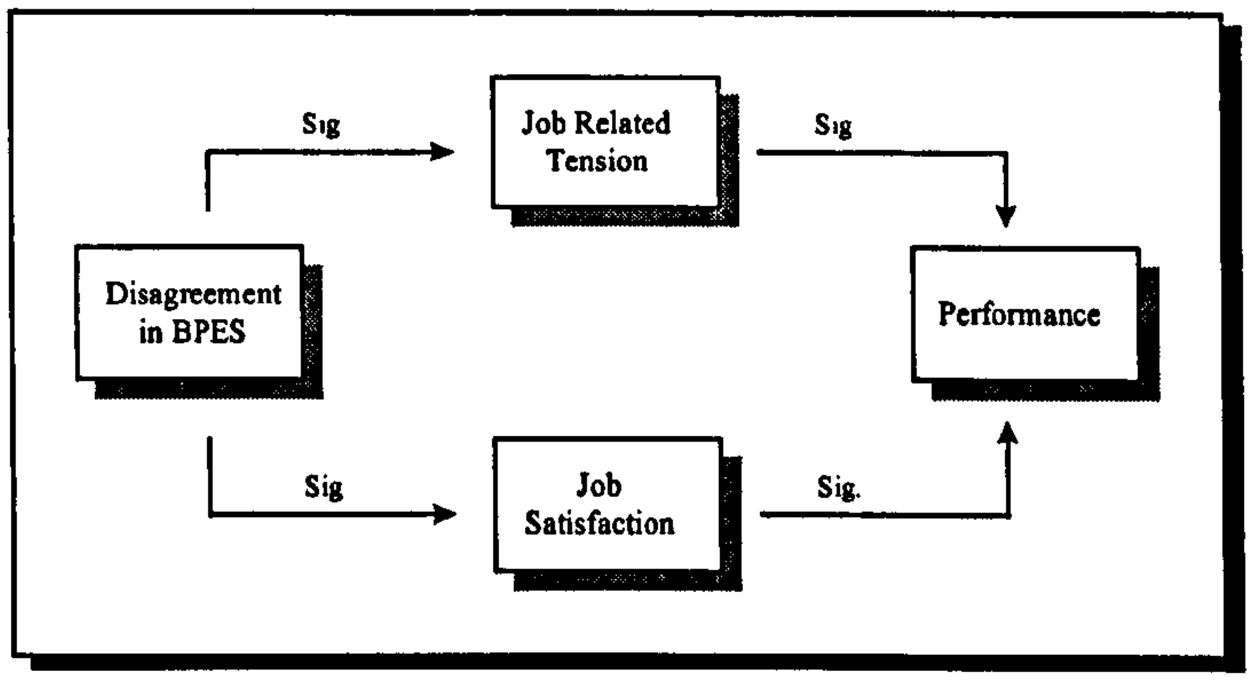
In this area it has also been argued that culture has a possible contingent role which could reconcile the results of Hopwood and Otley. For example Harrison [1993] conducted a study which used two cultural variables developed by Hofstede [1980] ("power distance" and "individualism"[1]) as the most appropriate cultural dimensions that may affect the styles superiors adopt in evaluating their subordinates performance. He found (p.336) that high reliance on accounting performance measures in superior evaluative style was associated with lower tension and with higher job satisfaction in a high power distance and low individualism society (Singapore), while low reliance on such measures was associated with lower tension and higher satisfaction in low power distance and high individualism society (Australia).

In a recent study, Choo and Tan [1997] studied the disagreement between superiors and subordinates regarding budgetary evaluative style on performance through two mediating (intervening) variables which were job-related tension (JRT) and job satisfaction (JS) as indicated in figure 2.3.

1. See appendix B and chapter four for more details about these two dimensions.

Figure 2.3

Job-related tension and Job Satisfaction as intervening variables between disagreement in BPES and performance



(adopted from Choo and Tan [1997])

Their results showed that JRT and JS were negatively correlated with each other, and they both acted as intervening variables between disagreement in budget performance evaluation style (BPES) and performance. As disagreement in BPES increased, JRT increased and JS decreased. Consequently performance decreased when JRT increased and increased when JS increased as well.

From the previous discussion we can see how the literature is quite in conflict with respect to the effect of evaluative style on managerial performance and job-related behaviour. Various variables such as budgetary participation and environmental uncertainty have been adopted to reconcile these contradictory results, and finally culture has also been used as a possible contingent variable. Nevertheless the area still unclear. Therefore, in an attempt to reconcile the previous work this research adopts replicating some hypotheses using a wide-ranging sample, in different cultures, and using two analytical approaches in order to provide more insight to this issue from a different points of view.

This research will adopt the propositions which argues that budget emphasis interacts with budgetary participation affecting both performance and satisfaction. In addition to these two propositions, we can notice that literature has ignored a possible effect for style of evaluation on managers' motivation to achieve budget. This research

argues for a positive contingent role for budget emphasis between budgetary participation and managers' motivation. When managers are evaluated based on their ability to meet their budgets, high participation will increase their motivation to achieve these budgets. According to the previous discussion the following hypotheses were derived.

H-I.7- Budget emphasis plays a moderating role between Budgetary Participation and both performance and satisfaction as follow.

H-I.7a- when budget emphasis is high, there is a positive relationship between Budgetary Participation and performance;

H-I.7b- when budget emphasis is high, there is a positive relationship between Budgetary Participation and satisfaction.

H-I.8- Greater budget emphasis increases managers' motivation to achieve budget targets when they perceive a high level of participation in setting their departments' budgets.

2-6 Information Asymmetry

The literature with respect to information asymmetry and its interaction with budgetary participation is somewhat contradictory and confused, this may due to the way information asymmetry is interpreted. Some researchers mean that the subordinates have more information than their superiors, whereas others mean that the superiors have some information that is not held by their subordinates.

Information asymmetry is an assumption common to all principal-agent models. From the point of view of this theory, Magee [1980] proposed that the expected payoff to principals (superiors) could be enhanced with access to local information held by agents (subordinates) prior to setting the budget (see Dunk [1993]).

By giving subordinates (agents) the opportunity to participate in budgetary process, superiors (principals) may be able to obtain the required information from those agents. This information may be incorporated into budget standards against which agents' performance would be evaluated. The problem here arises as agents may

misrepresent some of their private information which consequently leads to dysfunctional behaviour. Therefore, more attention has been paid to see whether participation in decision making by those subordinates who hold more information than their superiors will lead to dysfunctional behaviour or not.

The accounting literature has witnessed various empirical studies in this area. Dunk [1993], for example, tested the effect of both information asymmetry and budget emphasis on the relationship between budgetary participation and budgetary slack. His results were contradictory to his expectations; the results showed that budgetary slack was low when participation, information asymmetry, and budget emphasis are all high, and vice versa. The results of Dunk [1993] have to be considered with some caution as budgetary slack was measured using a measure which was developed by Dunk himself, and accordingly its reliability has not been established. Dunk has already attributed his disappointing results partly to his new measure.

From a positive point of view, Dunk [1995a] argued that high information asymmetry (subordinates hold more information than their superiors) will result a high performance when managers participate in budgetary process. His argument was based on the literature that suggests that involving subordinates who are better informed than their superiors may lead to more realistic and accurate budgets and such enhance their performance. The results of an empirical study in Australian manufacturing companies supported his argument strongly, as the results suggested that only those who held more information than their superiors reported higher performance.

Dunk's [1995a] results have a number of limitations, first, he used a single item measure for performance which was used in some studies such as Brownell & Merchant [1990] to evaluates department performance. From the researchers' point of view a single item for performance measure is not quite accurate and may include some bias. Second, his sample did not reflect wide-ranging of areas of responsibility centres. Dunk's sample was production and marketing managers working in manufacturing companies. He argued that these two departments are often seen as being better informed than their superiors. Production and marketing managers are not the only

departments who are informed better than their superiors, there are different department such as finance managers who know about the liquidity necessary to run the work, maintenance managers whose budgets imply sometimes high cost to keep machines and building in a good condition and provide post-sales services. Third, his sample was selected from manufacturing companies, in spite of the fact that information asymmetry is not restricted on manufacturing activities but it could relate to all activities. Further research in this area is needed.

In another study Shields & Young [1993] developed and tested a model of participative budgeting which had asymmetrical information as the antecedent and budget-based incentives and firm-wide performance as the consequences. The information asymmetry explanation tested in their paper was based on the assumption that an important source of the demand for participative budgeting is information sharing. Participative budgeting was used by superiors to learn about the better local information held by subordinate managers.

Their results showed a significant positive correlation between budgetary participation and information asymmetry. Using path analysis they tested the indirect effect of information asymmetry on firm-wide performance. Their results provided clear evidence that participative budgeting had weak indirect effects on firm-wide performance.

Although the previous discussion showed that information asymmetry and budgetary participation could imply either favourable or unfavourable attitudes toward budgets and performance, there is a lack in the literature about a possible interaction between budgetary participation and information asymmetry affecting managers motivation to achieve budgets. The previous discussion could provide a base to hypothesise that information asymmetry has a contingent role between budgetary participation and both budgetary slack and motivation. The researcher argues when managers have more work-related information than their superiors, their propensity to create slack will increase and so they will be highly motivated to achieve their budget' goals. In addition, this research also argues that the size of an organisation and the

degree of information asymmetry are positively related. This research will test these propositions empirically as they are stated in the following hypotheses.

H-I.9- When managers are in a position of having more information than their superiors:

H-I.9a- high participation in the budgetary process will increase managers' motivation to achieve budget;

H-I.9b- high participation in the budgetary process will increase managers' propensity to create slack.

H-I.10- There is a positive relationship between company size and the degree of information asymmetry. In other word, in large organisations, subordinates hold more information than their superiors.

2-7 Job Difficulty

The term of job (task) difficulty includes two separate concepts, job difficulty and variability. The first refers to "the analysability of the work itself and the extent to which there is a known procedure that specifies the sequence of steps to be followed in performing the task" (Van de Ven & Delbecq [1974]). The later refers to "the number of exceptional cases encountered in the work requiring different methods or procedures for doing the work".

In the budgetary context, job difficulty has been investigated as a moderating variable between participation and both performance and motivation. A potential moderating effect of job difficulty was explained by Mia [1989, p.348]. In situations of high job difficulty, more information is required at the point of task execution. Managers operating in such a situation may not have all the necessary information to execute the job; they may need to obtain and process additional information to understand the job clearly, thereby improving their chances of successful performance and obtaining desired rewards.

Mia [1989] argued that the greater job difficulty, the greater positive relationships between participation and both performance and motivation. Figure 2.4 summarises the relationships hypothesised by Mia.

Figure 2.4

Moderating role of Job Difficulty and Both Performance and Motivation

		Job Difficulty	
		Low	High
Participation	High	More positive relationship	Less positive relationship
	Low	Less positive relationship	More positive relationship

(adopted from Mia 1989)

The results of Mia were partially consistent with his expectations; he found a significant interaction between participation and job difficulty affecting performance. In other word, performance was high when the amount of participation was consistent with the level of job difficulty. In contrast, performance was low when the amount of participation was inconsistent with the level of job difficulty. Mia [1989] interpreted the contradiction in previous research about the relationship between budgetary participation and performance as the absence of some moderating effect such as job difficulty. His results showed no significant interaction between participation and job difficulty affecting motivation, so this was in contrast to his expectations.

In another attempt to investigate this proposition, Orpen [1992] also investigated the effect of job difficulty as a moderating variable between budgetary participation and performance. His study was conducted in a single firm in Australia, using sample of 136 managers. The results were consistent with those of Mia [1989] as participation had a significant interaction with job difficulty affecting performance. Orpen's findings suggested that budgetary participation is more likely to improve performance in relatively difficult jobs. Based on the previous discussion the following hypothesis was derived.

H-I-11- Job difficulty plays a moderating role between budgetary participation and performance, namely, when job difficulty increases, the positive relationship between budgetary participation and performance will increase.

Summary and Conclusion

The accounting literature has argued that the influence of budgetary participation on managerial performance, job or budget-related behaviour (e.g. Job satisfaction, budget motivation, budgetary slack) is not universal. On contrary, they are contingent on other variables which has been classified into organizational (macro-level) and behavioural (micro-level).

This chapter has discussed the macro-level group which consisted of nine variables. Based on the literature, four of these variables were perceived as determinants of budgetary participation and they are: organization size, environment uncertainty, process automation, and product standardisation. In organisation and management accounting contexts these variables have been known as "the contingency variables"

The other macro-level variables which have been discussed in this chapter were: budget emphasis (style of evaluation), consideration and initiation structure (leadership style), information asymmetry, and job difficulty. The literature suggested that these variables influence the relationship between budgetary participation and performance, job and budget-related behaviour.

In this chapter each variable was defined and the related literature was introduced to show how it was perceived by different scholars. At the end of each section a set of hypotheses were derived. Thirteen hypotheses were concluded in this chapter, of which nine were replicated because the previous studies showed inconclusive results, therefore, the replication will provide an assessment about the robustness of their conclusions. The other hypotheses were developed because they have not, so far, received a considerable amount of attention.

These macro-level variables have been used in the integrative model which was proposed in this study. Before introducing this model it was necessary to introduce the other group of variables (micro-level) as will be discussed in the next chapter.

Chapter Three

Micro-Level Factors Affecting Budgetary Control

3.1

3 - Micro-Level Factors Affecting Budgetary Control

This chapter discusses the effect of micro-level "behavioural" variables on budgetary control system. These variables have been investigated in the previous research and many empirical results provided evidence that they influence this system. These variables are budgetary participation, budget difficulty, budget clarity, locus of control, budget motivation, and budgetary slack. Performance and satisfaction will be discussed in this chapter as they were tested as dependent variables to the micro-level one.

3-1 Budgetary Participation

Budgetary participation refers to the extent to which managers are involved in setting budgets and they are able to influence or determine their department goals. It is one of the most important variables in this area, and it has been considered carefully and extensively in behavioural accounting research. It has been investigated with many of organisational and behavioural variables. This variable has been viewed differently by different researchers: some researchers consider it as an independent, others as a dependent, a third group as an intervening, a fourth group as moderating (see appendix F).

Participation in decision making was considered originally as a behavioural factor that has its effect on employees' motivation, performance and satisfaction. As discussed before, Theory Y was developed as a result of the criticism which was directed to Theory X which had negative behavioural consequences on employees. Theory Y claimed that under some conditions, employees not only accept but sometimes seek responsibility. Employees can be given this responsibility by being involved in decision-making.

Over the past sixty years there have been a number of pieces of research which have studied autocratic and democratic styles of leadership, and more analytical parts of democratic leadership such as participation. These studies showed that supervisors who

use more democratic styles of leadership were likely to have both higher morale and higher productivity in their groups. The following review will show how budgetary participation has been viewed by different research and different consequences of participation on budget-related behaviour.

Argyris [1953] who conducted a famous piece of research in the area of budgetary control, distinguished between "pseudo-participation" (that is, participation which is apparent but not real) and "true participation", where people can be observed to be spontaneous and uninhibited in their discussion. He noticed that the pseudo-participation was desired by some controllers as they use it as a pressure device. The following statement which was reported by a controller (p.28) may indicate that clearly:

> "We bring them in, we tell them that we want their frank opinion, but most of them just sit there and nod their heads. We know they are not coming out with exactly how they feel. I guess budgets scare them; some of them do not have too much education .... Then we request the line supervisor to sign the new budgets, so he can not tell us he did not accept it. We have found a signature helps an awful lot. If anything goes wrong, they can not come to us, as they often do, and complain. We just show them their signature and remind them they were shown exactly what the budget was made up of ..."

It is clear from this comment that budgetary participation was not in its real sense, on contrary, it was pseudo-participation. This kind of participation was criticised by Argyris himself as it may lead employees to reject goals. He recommended that if top management want to use participation to attain their objective, then they should use more effective participation, otherwise it will lead to dysfunctional behaviour.

The study of Argyris attracted the attention of many researchers to investigate the effect of both real and pseudo participation on budget-related behaviour. For example, in a study by Becker and Green [1962], participation was perceived as process and content: process means the *act* of participation with the possible consequences stemming from the act; content was the *discussion topic* toward which are generated

positive or negative attitudes. The act of participating enabled the participants to know one another, communicate and interact with one another; conditions that can easily lead to increased cohesiveness.

French et al [1966] tested the effect of participation on goal achievement, the relationship with managers, attitudes toward the appraisal system, and self-actualisation. Some of their conclusions[1] were that the usual level of participation was associated with subordinate-manager relation as measured before the appraisal interview. A high level of participation was associated with occupational self-actualisation. They also found that increases in participation tended to produce improvements in the relation of subordinate to manager, but decreases in participation did not have their expected undesirable effects.

In his leading research, Hofstede [1968] showed how participation affected employees' motivation. He produced clear-cut evidence by interviewing first and second line managers in five companies in The Netherlands. The following statements from his study show how managers viewed participation (ibid., p. 174)

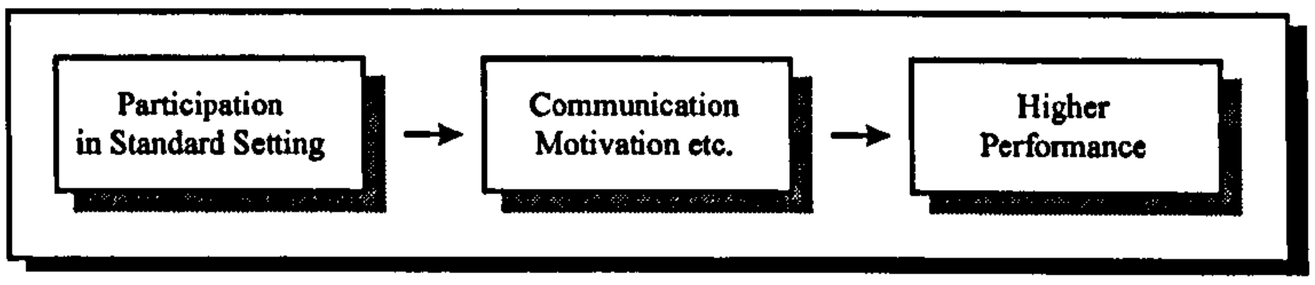
- *"I like working with standards, but with standards I've got a say in my self" (second line manager)*
- *"My budget makes my task easier. It would be different if it were imposed without consultation. In that case the job would be very tough" (second line manager)*

The two statements showed how managers were highly motivated to work with figures with which they have been involved in putting it. Hofstede [ibid.] developed a model of participation in standard setting that leads to higher performance. The traditional view of participation and developed model are explained in figures 3.1 and 3.2

1. For more details see French et al 1966, p.18.

Figure 3.1

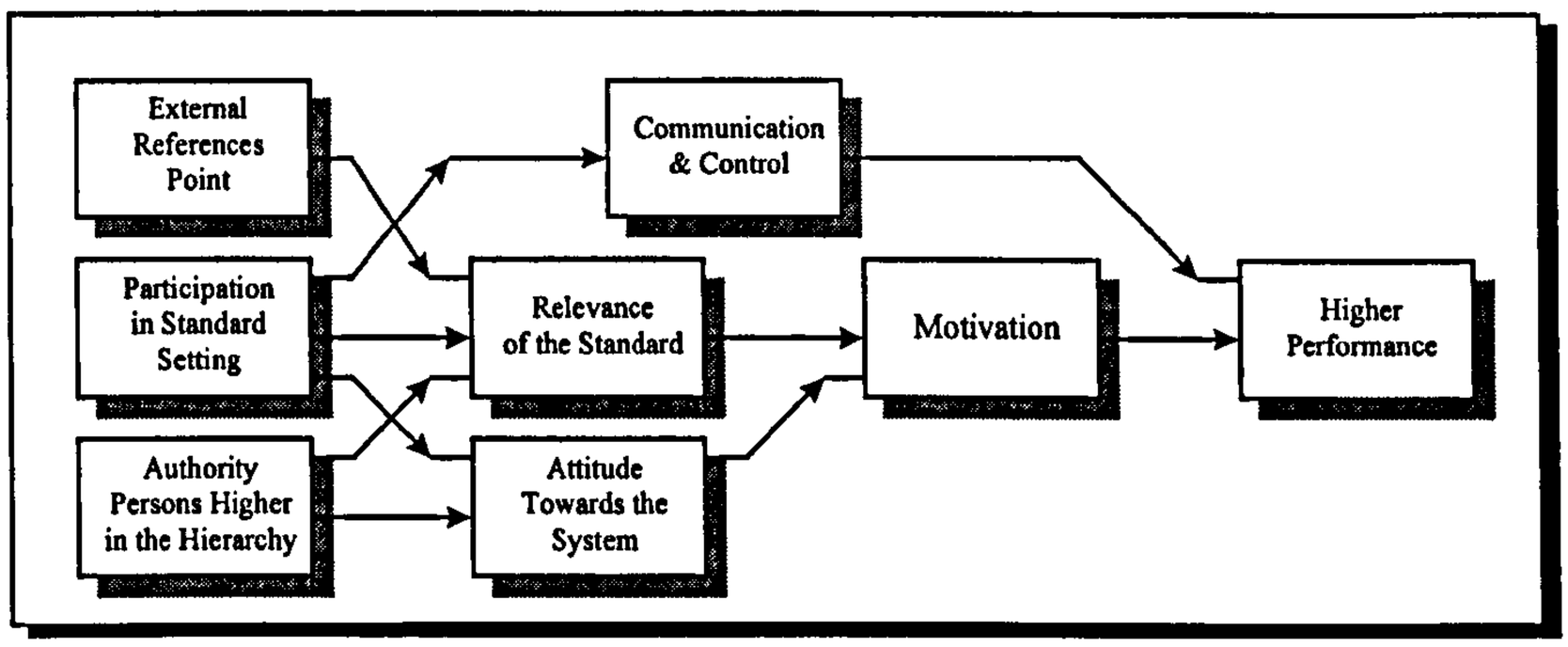
The traditional view of the effect of participation in standard-setting
(adopted from Hofstede 1968)



(adopted from Hofstede [1968])

Figure 3.2

Improved model of the effect of participation in standard-setting



(adopted from Hofstede [1968])

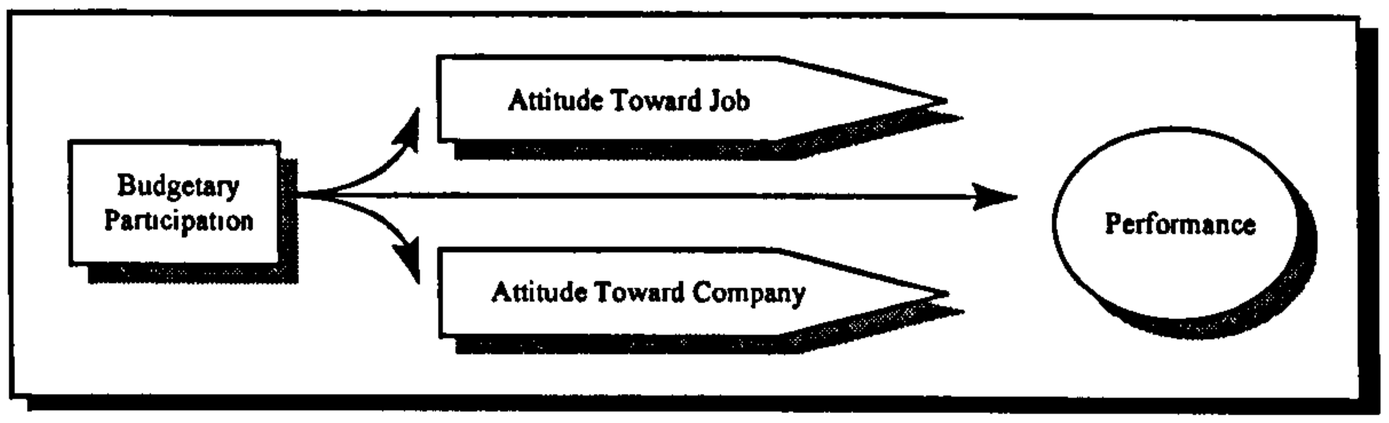
The assumptions of his new model as indicated in figure 3.2 that participation contributed to communication, relevance of the standard, and attitudes toward the system. However, these three aspects were also affected by external reference points and the authority of superiors, so that achievement of the final goal of higher performance depended crucially on the combined inputs of the three initial elements in the model.

The approach of Hofstede was a base for many researchers who followed him (as well as in this study) to test the effect of participation on many organisational and behavioural variables either directly or indirectly.

In another study, Milani [1975] developed a conceptual model which tested the effect of participation on performance directly and indirectly through employee's attitudes toward their jobs and companies. The study focused on foremen who were involved in operating budget situations. The framework of this model is shown in figure 3.3.

Figure 3.3

Conceptual model as proposed by Milani 1975



He has also developed a measure of budgetary participation which has been the basis for many subsequent studies. Milani reported that his results provided limited empirical support for Argyris, Hofstede and others who advocated participation in setting budgets. The study showed a significant relationship between budgetary participation and attitudes toward both job and company, but it failed to find a significant contribution of participation on performance. It worth attracting the attention to the fact that Milani's study was conducted on a single firm and thus his results are less generalizable.

Otley [1987] argued that budgetary participation has positive and negative impacts on budget-related behaviour, for example it increases the relevance of the budget standard in the eyes of the recipients. It also improves managers' attitudes to the budget system, and in the same time it increases the flow of information between managers and their superiors. Otley [ibid. p.33] mentioned that it should not be overlooked that participation gives managers the opportunity to introduce bias into their budgets if they were motivated to do so.

Kenis [1979] examined some effects of budgetary goal characteristics, such as participation on job and budget related attitudes and performance. His results supported the view that participation had a positive effect on attitude. Significant relationships were found between budgetary participation and both budget and job-related attitudes. The study (p.717) found that participation was unrelated to job performance.

The literature review in this area shows that much attention has been paid to the effect of budgetary participation and both job performance and job-related behaviour

(i.e. satisfaction). The results of these two relationships were inconclusive. Some researchers (i.e. Brownell [1982], Frucot & Shearon [1991]) found a positive relationship, others (i.e. Lau et al [1995]) reported a negative one, and a third group (i.e. Mia [1989]) found no relationship. That is why much concerns have been paid to investigate the role of some contingent variables which may reconcile these contradictory results. It is not necessary to discuss these studies at this point since each of these variables is treated separately, organisational variables were discussed in the previous chapter and the behavioural variables which affect these relationship will be discussed in the following sections.

As the previous works reported conflicting results with respect to the effect of budgetary participation on managers' performance and satisfaction, so this research will replicate these two propositions using the approaches developed in this study in order to provide more insight about their effect. The direction of their effect was proposed to be positive as they are based on the literature review which suggests that when managers are involved in setting budgets they will be motivated to put more realistic figures and hence, they will perform better and more satisfied.

In this area little attempt has been made to check whether or not managers allow their subordinates to participate in budgetary process if they themselves perceived high participation in the budgetary process. This research argues that when managers perceive a high level of participation in budgetary process, they will give their subordinates a high degree of participation as well. Based on the previous discussion this research will test the following hypotheses.

H-II.1a- There is a positive relationship between budgetary participation and performance.

H-II.1b- There is a positive relationship between budgetary participation and satisfaction.

H-II.2- Managers will allow their subordinates a high level of participation in the budgetary process if they perceive themselves as having a high degree of participation in the budgetary process.

3-2 Budget Goal Difficulty

Before introducing the literature review in this area, distinction should be made between job difficulty and budget or goal difficulty. Job difficulty as was discussed before, is concerned with the particular job employees are involved in, for example in a watch factories technicians should be highly qualified and have a high level of concentration. Other factories are completely automated and products do not require the same level of attention from employees. Budget or goal difficulty refers to the extent to which budget goals are achievable by those people who are responsible for implementing them. It ranges from very easy to very tight.

Stedry and Kay [1966] defined a *goal* as a level of performance whose attainment is associated with "success", and non-attainment with "failure". Thus, it will include the psychological aspiration level. Many studies investigated goal difficulty and performance. Dey and Kaur [1965] for example found hard (assigned) output goals to produce a higher level of performance than easy goals. Locke [1968, p.166] reported that Siegal and Fouraker [1960] using an experimental bargaining task, asked some subjects to try for a specific quantitatively high profit and others to try for a specific quantitatively low profit. The former group negotiated higher profits than the latter.

Locke et al. [1981] reviewed a massive volume of laboratory and field studies which considered the behavioural effects of goal setting. Some conclusions from this review are outlined below (p.145-46):

- Ninety percent of the studies showed a positive or partially positive effects of goal setting on task performance.
- Goals are most likely to affect performance under many conditions. Some of these conditions are (a) range and type of goals (individuals with specific and challenging goals outperform individuals with easy goals);

(b) participation and supportiveness (Locke et al. reported that there was no consistent evidence that participation leads to better task performance than assigned goals when the goal level is controlled, though it sometimes leads to setting higher goals than the superior would have assigned).

In the area of budgetary control, budget difficulty was investigated together with attitude and performance. Hofstede [1968, p.144] found that the level of standards play a role in achievement motivation. More specifically, his findings showed that (a) loose budgets were poor motivators; (b) the motivation effect of budgets becomes stronger when they become tighter; (c) over a certain limit of budget tightness, motivation became poor again.

In another study, Kenis [1979, p.716] found no relationship between budgetary participation and budget goal difficulty. The relationships between budget goal difficulty and both attitude and performance were very weak. When mean scores of attitude and performance were examined at different levels of goal difficulty (about right, tight but attainable, very tight), no relationships existed between budget goal difficulty and job satisfaction, job tension, attitude toward budgets, budgetary motivation and performance. Ezzamel [1990] reported a similar result to that of Kenis as he found no relationship between budgetary participation and budget goal difficulty. The findings of both Kenis and Ezzamel provided support that culture had no effect in this area as they were conducted in two different culture (USA and UK).

From the previous discussion we can see that most of the previous works were focused on testing the effect of goal difficulty on performance, satisfaction, and motivation. There have been few attempts to check the contingency role of goal difficulty between budgetary participation and both managers' motivation and budgetary slack. This research argues that goal difficulty interacts with budgetary participation affecting either favourable or unfavourable consequences. When managers are involved in setting budgets, it means they are better informed about the achievable levels, so they will include more realistic figures and hence they will be highly motivated to achieve

them, and their propensity to create slack will be decreased. Based on the previous discussion the following hypotheses have been derived.

H-II-3- Budget goal difficulty moderates the relationship between budgetary participation and both motivation and slack, as follows:

H-II-3a- when goal difficulty is high, a high level of budgetary participation leads to high motivation;

H-II-3b- when goal difficulty is high, a high level of budgetary participation decreases the propensity of managers to create budgetary slack.

3-3 Budget Goal Clarity

Budget goal clarity refers to the extent to which budget goals are clear to those who are responsible for implementing them; it ranges from very ambiguous to very clear. However, in the area of budgetary participation this variable received little attention. This is probably because budget clarity and participation are close to each other. It is possible to argue that when managers are involved in setting-up budgets, budget goals are clear to them and then they will undertake implementing them.

Locke et al [1981] which was discussed in the previous section, concluded from their review that goals are likely to affect performance under goal specificity. This means that goals regulate performance most predictably when they are expressed in specific quantitative terms rather than as vague intention to "try hard" or as subjective estimates of task.

The results of Kenis's [1979] study which was discussed above showed that budgetary participation and budget goal clarity were not positively related, and both budgetary participation and budget clarity were significantly and positively related to managers' attitudes towards budgets. However, the contingency role of budget clarity between budgetary participation and both managers' performance and satisfaction is rare. This research considers this aspect by testing the contingency role of budget clarity

between budgetary participation and both performance and satisfaction. It is anticipated that when budget goals are clear, high participation in the budgetary process will be associated with high performance and satisfaction, and these propositions are shown in the following hypotheses.

H-II.4- Budget goal clarity moderates the relationship between budgetary participation and both performance and satisfaction:

H-II.4a- when budget goals are clear, high participation in the budgetary process will be associated with high performance;

H-II.4b- when budget goals are clear, high participation in the budgetary process will be associated with high satisfaction.

3-4 Locus of Control

Locus of control is a variable which has received a considerable amount of attention in the literature. It is a psychological variable which categorises individuals as either internals or externals (It is an expectancy variable rather than a motivational one). The following statement by Chiu and Hui [1982] indicates the difference between internal and external locus of control:

> "From the behaviourist point of view, the expectation that a particular behaviour will lead to a particular reward or punishment is generalizable, from the specific situation to situations that are seen as similar. The generalized expectancy that the reinforcement depends on one's own action is called internal locus of control. When a person perceives that reinforcements are not contingent upon their action, but rather upon other factors such as powerful others or fate, they are called external".

Lefcourt [1966, p.207] defined internals and externals as follow.

"internal control refers to the perception of positive and/or negative events as being a consequences of one's own actions and thereby under personal control; external control refers to the perception of positive and/or negative events as being unrelated to one's own behaviour in certain situations and thereby beyond personal control"

Locus of control has been examined extensively in accounting research. Brownell [1981, 1982a] investigated the effect of locus of control as a moderating variable between budgetary participation and both managers' performance and satisfaction. In 1981, he reported the results of a laboratory study conducted to investigate the role of locus of control in the relationship between budgetary participation and performance. His research hypothesis is illustrated in figure 3.4.

Figure 3.4

Locus of control, participation, and performance

		Internal	**External**
Source of Control in Particular Situation:	High Participative	Congruence High performance	Incongruence Low performance
	Low Non-Participative	Congruence Low performance	Incongruence High performance

(adopted from Brownell [1981])

The results of his study provided strong confirmation of the predicted interactive effects of participation and locus of control for independent samples drawn from two different populations: accounting students and middle-level managers in manufacturing organisations. The results showed that the highest performing internals where those in high participation conditions, while the highest performing externals were those experiencing low participation.

The first study did not test the moderating role of locus of control on managers' satisfaction, that is why Brownell [1982a] extended his model to involve satisfaction. Brownell [ibid.] repeated his first study using a different method. A survey questionnaire was administered to 48 middle-level cost centre managers. This sample of

managers was the same group which formed the second experimental sample in Brownell's first study [1981].

The results of his second study were consistent with those of the first, the interaction between budgetary participation and locus of control affecting performance was significant in both studies. Regarding satisfaction, the results in the second study showed that satisfaction with a particular job-aspect is higher for internals in high participation conditions and for externals in low participation conditions.

It was questioned in the literature whether or not the results of Brownell [1981, 1982a] were generalizable, therefore, many researchers tried to check this point. Frucot and Shearon [1991] for example replicated the study of Brownell in Mexico. Their results supported that locus of control and budgetary participation interact with each other affecting performance, whereas this interaction had no effect on managers' satisfaction. Although they attributed the differences to the culture, it would be more accepted to say that their study did not replicate Brownell precisely. In particular, Frucot and Shearon's measure of locus of control was different from that of Brownell. Of course each measure has its validity, but the researcher believes in order to avoid bias and to provide more precise comparison the same measure should have been used.

In an attempt to check the generalizability of Brownell' results, Otley et al [1994] replicated the study of Brownell [1981]. They thought that replication was a much neglected aspect of accounting research. Their subjects were postgraduate students on various business degree courses and from different cultures, such as Anglo-Saxon, European, Oriental (Hong Kong and Singapore), African and Arab.

Using the whole sample, which comprised of seventy five students, the general results provided weak support for Brownell's outcome, as the statistical interaction between participation and performance was not significant. But the graphical representation of their results showed that low participation resulted in better performance only for externals, and hence these results were consistent with those of Brownell.

Otley et al [ibid.] grouped their sample based on subjects (i.e. accounting, business analysis, operation research) and national background (i.e. Anglo-Saxon, European), then they tested their model for each group. Although each group composed of small numbers, students of business analysis and Anglo-Saxon national and cultural background produced significant coefficients of the expected sign. These results confirm that there are different variables, such as culture, which may play a role in the relationship between budgetary participation and locus of control affecting managers' performance.

From another point of view Licata et al [1986] reported the findings of a laboratory experiment which indicated that locus of control also influenced the behaviour of superiors involved in the participative budgeting process. The research hypothesis was that an internal manager allows greater subordinate participation than an external manager. Research findings suggested that internals tended to allow greater participation, thereby supporting the hypothesis.

Mia [1987] tested the effect of locus of control on budgetary participation and hence attitude. Contrary to his expectation, Mia (p.554) found the correlation between participation and locus of control was not significant, although it took the expected negative sign. The results also showed a negative relationship between locus of control and attitudes, and that means that internals were likely to have a more favourable attitude toward their jobs than externals. Using path analysis, Mia [1987, p.558] tested the indirect relationship between locus of control and attitude via budgetary participation. The results showed it as negligible. So, his results supported the argument that locus of control has an important direct influence on employees' attitudes toward their jobs and employers.

It is clear from the above discussion that literature in this area has focused mainly on the joint effect of locus of control affecting either performance or satisfaction, and testing these assumptions in different cultures. The literature has ignored the results of this interaction on dysfunctional behaviour such as budgetary slack. The previous work

provides a basis to conclude that locus of control will play an important role in the manner set out below.

- For internals who are confident of themselves and they perform well and are highly satisfied with a high degree of participation, high participation will decrease their propensity to create slack.
- For externals who are not confident of themselves and they perform poorly with low job satisfaction under a high degree of participation, high participation will increase their propensity to create slack.

According to the previous discussion the following hypothesis was derived:

H-II.5- Budgetary participation and locus of control interact affecting managers' propensity to create slack. In situations of high budgetary participation, internals are less likely to create budgetary slack, and externals more likely to do so.

3-5 Budget Motivation

Motivation is a topic of considerable significance which continues to attract the attention of those who want to influence and manage the motivation of people in organisations. Huczynski and Buchanan [1991, p.57] defined motives as "learned influences on human behaviour that lead us to pursue particular goals because they are socially valued".

In accordance with that definition, organisational theorists searched for the motivational components that affect employees and make them do their best to accomplish organisation goals. There are two reason given for the increased interest in work motivation. First, it is usually argued that organisation's effectiveness is often result of its managers' ability to motivate their workers. Second, motivation itself is complex and not fully understood by both managers and scholars (Griffin [1996]).

Organisational theory has witnessed considerable research which investigated motivation on work-related behaviour. This is not the right place to discuss fully these

writings as they are out of the research interest. Attention will be given here to the effect of this psychological variable on budget-related behaviour. The role of motivation with budgetary participation was examined in early research. Searfoss and Monczka [1973] for example, tested the effect of motivation on budgetary control; his results supported his research hypothesis that participation in the budgetary process and motivation were positively related. Using a questionnaire distributed to middle and lower managers, Kenis [1979] confirmed the above argument that budgetary participation and budgetary motivation are positively related.

To provide a good understanding of work-related motivation, different theories were introduced in the organisational and accounting literature such as expectancy, need satisfying, and achievement theories[1]. The effect of these theories has been tested on some organisational and budget-related variables. This section will focus on expectancy, theory as it has been used by different researchers in the area of budgetary participation. First, an explanation of this theory will be introduced, followed by reviewing some studies which used it in the budgetary context.

Expectancy Theory

Expectancy theory was developed in 1960s as a basic paradigm for the study of human attitudes and behaviour in organisations. It was frequently used as a theoretical and operational definition of motivation. Lawler and Suttle [1973] developed an expectancy model of behaviour. Its measures were the basis of many accounting applications, as will be described later.

Another expectancy model was tested in a budgetary context by Ronen and Livingstone [1975] using House's [1971] formulation of an expectancy model which is set out below.

$$M = IV_b + P_1 \left\{ IV_a + \sum_{i=1}^{n} P_{2i} Ev_i \right\}$$

$$i=1, 2, \ldots\ldots, n$$

1. For more details about these theories see Lyne [1995].

Where

- M = motivation to work
- IV_a= intrinsic valance associated with successful performance of the task
- IV_b=intrinsic valance associated with goal-directed behaviour
- EV_i= extrinsic valances associated with the i_{th} extrinsic reward contingent on work-goal accomplishment
- P_1 = the expectancy that goal-directed behaviour will accomplish the work-goal (a given level of specified performance); the measure's range is (-1, +1)
- P_{2i}= the expectancy that work-goal accomplishment will lead to the i_{th} extrinsic reward; the measure's range is (-1, +1)

Ferris [1977b] applied the expectancy theory in public accounting firms. His results indicated that the expectancy model was a generally weak predictor of audit staff performance. It was, however, a significant predictor of employee job satisfaction. His results also suggested that the central expectancy core may not be applicable in professional environments, or at least at the lower echelons of professional organisations.

In another use of expectancy theory in an accounting context, Brownell and McInnes [1986] attempted to reconcile the contradictions of previous work in the area of budgetary participation and performance. They used the motivational impact of expectancy theory as a mediator (intervening) of the relationship between these two variables. Their study failed to confirm that budgetary participation, through its effect on motivation, enhanced managerial performance. They found a positive relationship between performance and both motivation, whereas opposite to their expectations budgetary participation had a negative relationship with *IVs* "intrinsic valences" in the expectancy model.

Brownell and McIness reported many limitations for their study which may have led to this disappointing results. Some of these limitations were directed to the sample

selection (non-random), others were to the theory itself. They mentioned (p.598) that expectancy models have sometimes shown a rather weak relationship to effort and performance. This criticism was observed by Ferris [1977b] which was discussed above.

To check this point further, Mia [1988] tested the effect of motivation as a moderating variable between budget participation and performance. Motivation in his study was viewed in the context of expectancy. Contrary to Brownell and McIness [1986], Mia found a positive interaction between budget participation and motivation affecting performance though budget motivation had insignificant relationship neither with performance nor budgetary participation.

It is clear that the literature is in conflict with respect to the effect of budgetary participation on managers' motivation to achieve budget, and the role of motivation on the relationship between budgetary participation and managers' performance. The study of Brownell & McIness [1986] used the intervening approach and their sample was chosen from middle management managers from three companies. The study of Mia [1988] used the moderating approach and his sample was drawn from a single company. So, directly comparing these two results has some limitations as they used two different methodologies.

Prompted by the inconclusive results reported by the previous works, this research will replicate some of the previous hypotheses to check their validity further. These hypotheses are consistent with the findings of Searfoss and Monczka [1973], Kenis [1979], and Mia [1988]. Specially if we consider the comments of Brownell & McIness [1986], who doubt the generalizability of their results based on the weak points in their study, and advocate further investigation of their findings. This study also includes an extension to the previous work by testing the moderating effect of budget motivation on managers' satisfaction. Therefore, the following hypotheses were derived.

H-II.6- There is a positive relationship between budgetary participation and motivation to achieve budgets.

H-II.7- Budget motivation plays a moderating role between budgetary participation and performance. When managers are highly motivated to achieve budgets, the positive relationship hypothesised in H-II.1a will increase.

H-II.8- Budget motivation plays a moderating role between budgetary participation and satisfaction. When managers are highly motivated to achieve budgets, the positive relationship hypothesised in H-II.1b will increase.

3-6 Budgetary Slack

One of the major issues in behavioural accounting research is the propensity of managers to create slack. Many studies (i.e. Dunk [1997], Merchant [1985]) provided evidence that slack exists in many organisations. A major concern in the literature is how is budgetary slack created and what factors may increase or decrease this negative dysfunctional behaviour? First of all definitions of budgetary slack will be introduced, followed by a review for some previous works in this area.

Cyert and March [1992, p.42] considered slack as the difference between the total resources available to the firm and the total necessary to maintain the organisation coalition. A definition of budgetary slack is that offered by Nouri [1994] "the amount by which managers intentionally build excess requirements for resources into the budgets, or knowingly understate productive capability".

How slack is incorporated into budgets, this was the question of many studies which their finding provided insights to the ways by which managers manipulate to do so. Low and Shaw [1968] produced evidence that sales forecasting could be used to create slack. Schiff and Lewin [1968] estimated that 20 to 25 percent of divisional operating expenses could be due to slack.

Dunk [1997] investigated different issues about budgetary slack through a series of interviews with functional managers of different responsibility centres (production & marketing). One issue was how managers create slack. Some managers mentioned that

they can build slack into both fixed and indirect costs over which they have control. Marketing managers (revenue centres) particularly said that they were able to build slack by understating revenues (reducing expected sales quantities) and overstating costs (advertising costs). These results confirm that slack is existed in organisations and is a very common phenomenon.

However, regardless of how slack is created, it should not be overlooked that it has its dysfunctional effect on organisations (Merchant [1985]). Such dysfunctional effects are the reason why much effort has been made to understand the causes of budgetary slack. One line of research was that, as long as budgetary slack is created by managers themselves, efforts should be made to test whether or not managers' participation in the budgetary process would lead to slack.

Dunk [1997] tried to answer this question. His respondent were asked whether participation in budgetary process was a means by which slack could be built into their budgets, and they indicated this was the case. An initial response to this answer reveal yes, budgetary participation does affect managers' propensity to create slack. But some studies reported contrasting results.

In early studies Onsi [1973] and Merchant [1985] for example found that participative budgets and budgetary slack are negatively related, whereas this relationship was weakly supported by others (Collins [1978]). Therefore, researchers focused on factors that may moderate this relationship and that might have led to such conflict. Budgetary slack-related studies have examined different factors that may affect the relationship between budgetary participation and budgetary slack. The following section introduces some of those factors.

3-6-1 Environment Uncertainty. Govindarajan [1986] suggested that environmental uncertainty was a way of reconciling the previous conflict. He proposed that, as long as higher information-processing needs can be handled by giving subunit managers greater participation in decision making, the relationship between participation and slack need not be present under all conditions. Rather, the relationship will be moderated by environmental uncertainty, and the study provided empirical

evidence for that. He found (p.513) that in situations of higher budgetary participation, the propensity of managers to create slack decreased in high environment uncertainty (but not in low-uncertainty).

3-6-2 Budget Emphasis and Information Asymmetry. Dunk [1993] investigated the effect of information asymmetry and budget emphasis between budgetary participation and slack. Contrary to his expectations, the results showed that budgetary participation, information asymmetry and budget emphasis interact with each other affecting budgetary slack. Using a three way interaction the results showed that slack was lowest when all independent variables were high, and highest when all predictors were low.

3-6-3 Ability of Superiors to Detect Slack. Lal et al [1996] tested the interaction between budgetary participation and slack detection on the propensity of managers to create slack. Their results provide evidence that slack is better controlled when the ability of superiors to detect it is high.

3-6-4 Technology. Merchant [1985] suggested that managers' propensity to create slack is negatively related to the predictability of the production process. His results showed that work-flow integration was negatively correlated with the propensity to create slack, but the product standardisation showed no significant correlation.

In another study Dunk and Lal [1995] used a sample of production managers from different manufacturing companies in New-Zealand to test the interaction of budgetary participation, process automation and product standardisation on managers' propensity to create slack. Their results provided support for the proposition that both process automation and product standardisation influenced the relationship between budgetary participation and managers' propensity to create slack.

3-6-5 Organisational Commitment. Nouri and Parker [1996] tested the effect of organisational commitment as a moderating variable between budgetary participation and budgetary slack, and. Their results showed a significant interaction of budgetary participation and organisational commitment leading to budgetary slack. For individuals with strong organisational commitment, the relationship was negative, for individuals

with low organisational commitment, the relationship was positive. The results of their study are limited as the sample chosen was from a single company and thus the results are less generalizable beyond the company they studied.

It is clear that the relationship between budgetary participation and budgetary slack is open to question as it was found to be positive in some cases and negative in others, and no relationship in a third group. On the other hand the previous results showed that this relationship is contingent on some organisational and behavioural variable. Again, prompted by this inconclusive results this research will replicate some hypotheses which have been examined in the previous works to assess the robustness of their outcomes using the approaches adopted in this research.

This research adopts the proposition that when managers participate in budgetary process they will be motivated to include more realistic figures and hence their propensity to create slack will decrease. This proposition is not universal, on contrary, it is contingent on some situational variable such as the ability of superiors to detect slack. When top management have various means to detect slack the relationship between budgetary participation and budgetary slack remains negative. The literature in this area has also ignored a possible contingent role for budgetary slack between budgetary participation and both performance and satisfaction. Base on the literature review this research argues that when managers' propensities to create slack are high, high participation will decrease their performance and increase their work satisfaction. Accordingly the following hypotheses were developed.

H-II.9- When managers perceive a high degree of participation in the budgetary process, their propensity to create budgetary slack decreases. In other words there is a negative relationship between budgetary participation and slack.

H-II.10- Superiors' ability to detect slack plays a moderating role between budgetary participation and budgetary slack. When superiors have a high ability to detect slack, high participation in budgetary process will decrease managers' propensity to create slack.

H-II.11- Budgetary slack plays a moderating role between budgetary participation and performance. In other words, when managers' propensity to create slack increases, high participation in the budgetary process will decrease their performance level.

H-II.12- Budgetary slack plays a moderating role between budgetary participation and satisfaction. In other words, when managers' propensity to create slack increases, high participation in the budgetary process will increase their satisfaction.

3-7 Job Performance

The issue of performance evaluation has been considered by hundreds of articles and books. It is the key factor which determines the effectiveness an organisation in implementing its goals. It is necessary to distinguish between the measures of organisational performance and the measures of department or job performance. In the accounting literature there are various measures which have been used to evaluate organisations performance such as ROI "return on investment" or RI "Residual income". In this part of the thesis, it is not possible to discuss this area fully, so, these measures will be excluded from the discussion as this research focuses only on the measures which have been used by researchers to evaluate functional managers' performance.

Many studies (e.g. Govindarajan [1984,1986), Merchant [1984], Dunk [1995b], Lau et al [1997]) used subjective measures to evaluate managers' performance. Their studies were based on a wide-ranging samples, thus it is impossible to get properly matched objective data in a cross-department study in multiple organisations. The literature in this area witnessed a number of subjective measures, the most common used measure that of Mahoney et al [1963]. It is a self rating measure based on management functions, it asks for rating for each of eight dimensions of performance as follow: planning, investigating, co-ordinating, evaluating, supervising, staffing, negotiating, and representing, bearing in mind that that different managerial positions

are likely to require different mixes of the eight dimensions[1]. used this measure as the ability of department managers and his efficiency in each dimension as well as they used a global item which reflect his overall performance.

Kenis [1979] used another subjective measure of performance through three dimensions, budgetary performance, cost efficiency, and job performance. Merchant [1984] and Dunk [1995] also used subjective measure which assess department's performance by asking their respondents how effective is their department.

Hopwood's earlier work on the criteria superiors use to evaluated their subordinates performance referred to four criteria. Three of these four were accounting measures reflecting two items only which are budget-constrained and concern with the cost (profit conscious) and the combination of these two items reflects a third dimension which is budget profit. The fourth dimension was non-accounting measure such as co-operation with colleagues, and concern with quality. In a previous section (2.5) attention was paid about the differential uses of these dimensions by superiors on actual performance, satisfaction and slack.

It worth drawing attention to the fact that the subjective measures is not quite accurate as they may include bias. In the literature it has been argued that survey method is affected by social desirable responding (SDR) which is "the tendency of individual to present themselves favourably with respect to current social norms and standards" (Zerbe & Paulhus [1987], p.250). It is difficult to discuss this issue (SDR) in detail, but attention should be paid in this section to the effect of this variable in the area of budgetary participation. Nouri et al [1995] argued for a moderating role for SDR on the relationship between budgetary participation (BP) and self-reported job performance (SJP). They proposed a positive relationship between BP and SJP when SDR is high, and no such relationship when it is low. Job performance was measured using two subjective measures (Mahoney [1963] and Gupta & Govindarajan [[1984]). Their empirical results supported strongly their argument for both measures.

1. See also chapter six.

Performance was considered as a dependent variable for most of the research in this area. This research introduced various hypotheses in which performance was used as a dependent variable as well. The measure used in this study for this variable will be introduced in detail in chapter six.

3-8 Job satisfaction

Price & Mueller [1986] defined job satisfaction as " the degree to which employees have a positive affective orientation toward employment by the organization" In a similar manner to job performance, job satisfaction was used as a final outcome for most of the previous work. In the accounting literature many researchers investigated the effect of some organisational or behavioural variables on job satisfaction (see Brownell [1982b], Harrison [1992], Ferris [1977]). The results of many of the previous studies found that managers' satisfaction in the company they belong to was associated with their participation in decision making (e.g. Frucot and Shearon [1991], Kenis [1979]).

Summary and Conclusion

Chapter two and three have introduced the macro and micro level variables which have been selected in this study to construct the proposed integrative model. Macro-level is a term which refers to the organisational variables, whereas the micro-level refers to the behavioural variables. These variables were classified into macro and micro level based on the nature of each variable and whether it was related to organisational characteristics and/or their internal polices or the perception of employees themselves.

The previous chapter has introduced the macro-level variables which consisted of organisation size, environment uncertainty, technology, budget emphasis, leadership style, information asymmetry, and job difficulty. This chapter has introduced the micro-level variables which consisted of budgetary participation, budget goal difficulty, budget goal clarity, locus of control, ability of superiors to detect slack, budgetary slack, budget motivation, performance, and satisfaction. Chapter six will discuss fully the instruments which have been used to measure these variables.

The macro and micro level variables were selected from the accounting literature to compose the proposed model. These variables have been selected as they received a considerable amount of attention in the previous work and their results showed their potential influence on budgetary control practices. In chapters two and three each variable was defined and the related literature was introduced. Twenty eight hypotheses were concluded and they were used to construct the proposed integrative model which shows systematically the relationship between them.

The next chapter will discuss the effect of culture on budgetary control practices because one of the aims of this study is testing the model in different culture. Chapter five, however, will re-review the research hypotheses altogether and explains fully the proposed model and the analytical approaches based on which the model will be tested.

Chapter Four

Cultures and Budget-Related Behaviour

4.1

4 - Chapter Four

Cultures and Budget-Related Behaviour

Many studies investigated the effect of culture on organisations and the systems by which these organisations are being run. The results of the previous works in this area were inconclusive. This chapter will introduce some definitions of culture which have been used by different researchers in this area (e.g. Hofstede [1980, 1994]). Then it will review some studies in this area which tested the effect of culture on management control systems and budgetary control.

4-1 The Concept of Culture

It is difficult to be precise about what is meant by culture. For Kluckhomn [1951] culture "consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values[1]".

Hofstede [1994, p.5] distinguished between what he called "culture one" where culture was perceived as a civilisation or refinement of the mind, and "culture two" where it was perceived as "a collective programming of the mind which distinguishes the members of one human group from another". Culture according to Hofstede's definition includes systems of values.

Culture is usually learned and not inherited. For example, if we imagine that after birth a baby girl was adopted by another family from a society different from that of her parents, she would acquire the culture from the environment she lived in. That is why Hofstede distinguished between human nature, personality and culture. Human nature represents the universal level in one's mind. It is inherited with one's genes. Hofstede

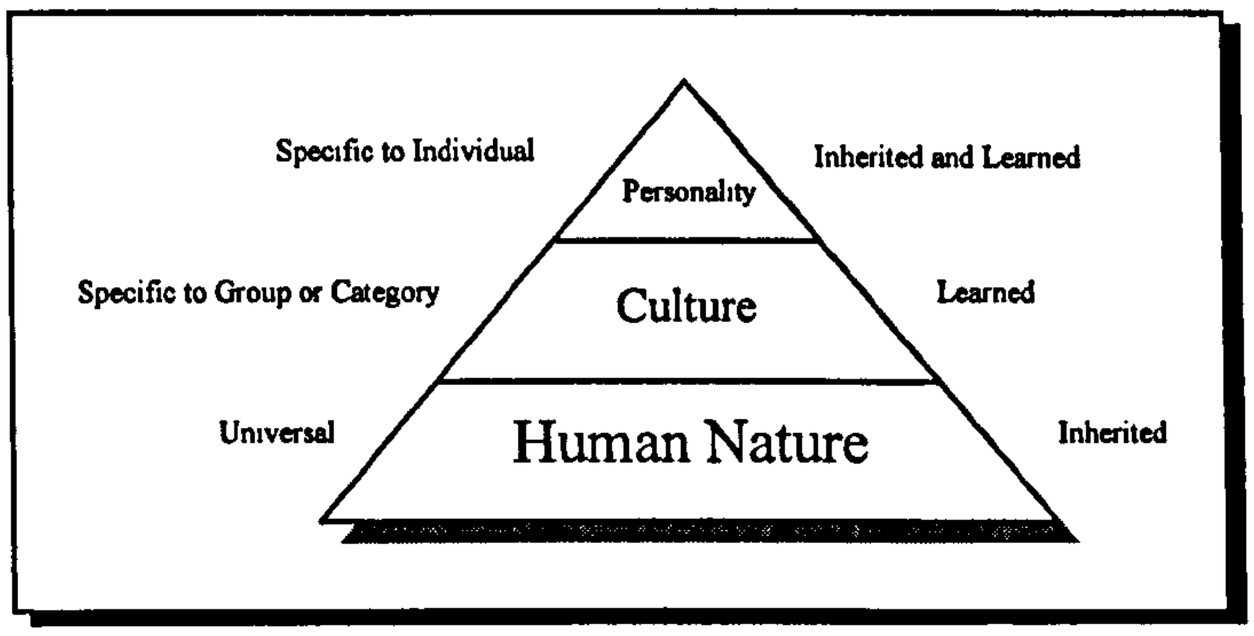
1. Cited in Hofstede [1980].

gave an example of human nature as the operating system which exists in any computer, and cultures is the programs. Human nature includes fear, anger, love and so on.

Personality, on the other hand is an individual characteristic. It is a unique personal set of mental programs which one does not share with others. It is partially inherited and partially learned. Figure 4.1 illustrates these three categories clearly.

Figure 4.1

Level of uniqueness in human mental programming



(adopted from Hofstede [1994])

4-2 National and Organisational Cultures

4-2-1 National Culture

In the first half of this century social anthropology reported that all societies modern or traditional face the same problems, but the answers to them are different (Hofstede [1994]). Social scientists attempted to identify those problems that were common to all societies through conceptual reasoning and reflection upon field experiences, as well as through statistical studies. Hofstede [1994, p. 13] reported that in [1954] Alex Inkeles and Daniel Levinson, published a broad survey, which suggested that the following issues qualify as common basic problems world-wide:

- Relation to authority
- Conception of self, in particular:

  a. the relationship between individual and society, and

  b. the individual's concept of masculinity and femininity

- Ways of dealing with conflicts, including the control of aggression and the expression of feelings

Hofstede conducted different studies examining the cultural dimensions in 53 countries and their effect on the values of people. Those people worked in local subsidiaries of one large multinational company (IBM). The four basic problem areas defined by Inkeles and Levinson were empirically found to represent dimensions of culture. Hofstede named these dimensions as follows:

◊ Power Distance (PD)

◊ Individualism versus Collectivism

◊ Masculinity versus Femininity

◊ Uncertainty Avoidance

4-2-1-1 Power Distance. The first dimension was power distance. This dimension refers to the way in which societies perceive human inequality. Some societies have norm value that inequalities between people should be minimised, to the extent that make them believe that hierarchies in a society and its organisations exist only for administrative convenience. Such society is classified as low power distance. On the other hand, some societies are characterised by the acceptance of their members of human inequality and its institutionalisation in hierarchies within a society such that is characterised as high power distance. According to the previous explanation, Hofstede [1994, P.28] defined power distance as "the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally".

Institutions such as the family and school are the basic elements of society, whereas organisations are the places where people work. Hofstede [1980, p.99] more specifically defined power distance between a boss (B) and his subordinate (S) as "the difference between the extent to which B can determine the behaviour of S and the extent to which S can determine the behaviour of B". The relationship between B and S is determined by different factors which are objective and subjective. The former refer

to the expertise of both, the history of their relationship and the task at hand. The latter refer to their mental programming and psychological impact on each other. The mental program contains their personalities and values. Table 4.1 explains the differences between low and high power distances in different countries.

Table 4.1

Summary of some power distance index (PDI) differences

Low or Small PDI Countries	High or Large PDI Countries
More educated persons hold less authoritarian values than less educated persons	Both more and less educated persons show almost equally authoritarian values
Hierarchy in organisations means an inequality of roles, established for convenience	Hierarchy in organisations reflects the existence in inequality between higher-up and lower-down
Decentralisation is popular	Centralisation is popular
Subordinates expected to be consulted	Subordinates expected to be told what to do

Adopted from Hofstede [1994]

4-2-1-2 Individualism versus Collectivism. The second dimension was individualism. This dimension describes the nature of relationship among individuals in a society. Hofstede [1994, p.50] classified people into two categories; the first is where people live in societies in which the interests of the group prevail over the interests of the individual. Every one in these societies seeks the interest of himself and people around him, and these societies were named "collectivist". In the second category, people live in societies where the interests of the individual prevail over the interests of the group. Every one in these societies seeks the interest of himself and of his/her immediate family. Hofstede [ibid., p.51] defined these dimensions as follows:

> Individualism was defined as "societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family". In contrast collectivism was defined as "societies in which people from birth onwards are integrated into strong,

cohesive in-group, which throughout people's lifetime continue to protect them in exchange for unquestioning loyality".

Table 4.2 summarises the differences between collectivist and individualist societies.

Table 4.2

Summary of some collectivist and individualist differences

Collectivist	Individualist
High-context communication	Low-context communication
Relationship of employer-employee is perceived in moral terms, like a family link	Relationship of employer-employee is contract supposed to be based on mutual advantages
Hiring and promotion decisions take employees' in-group into account	Hiring and promotion decisions are supposed to be based on skills and rules only
Management is management by group	Management is management of individuals
Relationship prevails over task	Task prevails over relationship

Adopted from Hofstede [1994]

4-2-1-3 Masculinity. The third dimension was masculinity and femininity. All societies consist of men and women who are biologically distinct. In all cultures this is acknowledged, but the roles which determine their behaviour are culturally different. For example, in some cultures, women are not allowed to work at all, where as in others they are allowed to work but not in the same place as men. In other cultures they work together with men. However, Hofstede [1994, pp.261-262] used the terms of masculinity and femininity for culturally determined roles. He defined them thus:

Masculinity was defined as "a society in which social gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender and

concerned with the quality of life" Femininity as its opposite was defined as "a society in which social gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life". Table 4.3 summarises the differences between feminine and masculine societies.

Table 4.3

Summary of some feminine and masculine differences

Feminine	Masculine
People and warm relationships are important	Money and things are important
Work in order to live	Live in order to work
Managers use intuition and strive for consensus	Managers expected to be decisive and assertive
Stress on equality, solidarity, and quality of work life	Stress on equality, competition among colleagues, and performance
Resolution of conflicts by compromise and negotiation	Resolution of conflicts by fighting them out

Adopted from Hofstede [1994]

4-2-1-4 Uncertainty Avoidance. The fourth of Hofstede's cultural dimensions was uncertainty avoidance. It is a fact that people do not know what will happen tomorrow, and as long as the future is uncertain, they have to live with it but feel anxious about what will happen.

Hofstede reported that every human society has developed ways of dealing with this anxiety. The ways belong to domains of technology, law, and religion. He defined uncertainty avoidance as,

"The extent to which the members of a culture feel threatened by uncertain or unknown situations". (p. 263)

Table 4.4

Summary of some uncertainty avoidance differences

Low or Weak Uncertainty Avoidance	High or Strong Uncertainty Avoidance
There should not be more rules than is strictly necessary	Emotional need for rules, even if these will never work
Time is a framework for orientation	Time is money
Comfortable feeling when lazy; hard-working only when needed	Emotional need to be busy; inner urge to work hard
Low stress; subjective feeling of well being	High stress; subjective feeling of anxiety
Motivational by achievement and esteem or belongingness	Motivation by security and esteem or belongingness

Adopted from Hofstede [1994]

Many researchers have used Hofstede's cultural dimensions in their research. In the accounting area there are many studies which have used these dimensions to test the effect of culture in accounting in general (e.g. Gary [1988]), and in budgetary control in particular (e.g. Harrison [1993]). Summary of some of the previous work with respect to budgetary control is discussed below.

Ueno and Wu [1993] used Hofstede's four cultural dimensions to determine whether national culture has an impact on budget control practices in the United States and Japan. They included the aspects of communication and co-ordination, planning, and performance evaluation. Some of their hypotheses were as follows.

1. US companies use formal communication and co-ordination in budget planning process to a greater extent than Japanese companies.
2. Japanese companies use broad time horizons in the budget planning process to a greater extent than in US companies.
3. US companies build slack into budgets to a greater extent than Japanese companies.

4. US companies practice controllability of budgets to a greater extent than Japanese companies.

They reported (p.33) that US companies characterised by individualistic managers were found to (1) use formal communication and co-ordination to a great extent, (2) build slack into their budgets to a greater extent, (3) practised controllability of budgets to a greater extent.

However, Ueno and Wu concluded that the cultural dimension of individualism-collectivism was a significant factor in explaining the different practices in budgetary control systems between US and Japan for hypotheses 1,4,5. On the other hand, uncertainty avoidance did not explain much the differences in budgetary control practices between the two countries.

Based on the results of Hofstede [1980], Frucot and Shearon [1991] expected Mexican managers to react differently to American in the area of budgetary participation. They replicated the study of Brownell [1982a] in Mexico city. Their research was based on a number of hypotheses including:

1. In Mexico, participation in the budgetary process does not lead to high performance and satisfaction.
2. In Mexico, locus of control does not interact with budgetary participation affecting managers performance and satisfaction.

Their results confirmed that both budgetary participation and locus of control affect managers performance, and participation alone positively affects the satisfaction of Mexican managers. However, locus of control was found not to have any interaction with budgetary participation affecting satisfaction. These results were consistent with Brownell [1981, 1982a] in performance, but they differ in satisfaction. Frucot and Shearon concluded that in performance culture has no effect, but in satisfaction they attributed the differences from Brownell [1981, 1982a] to culture.

Although Frucot & Shearon [1991] replicated the study of Brownell [1982a] in Mexico to test the effect of culture in this area, they did not include any cultural

dimensions in their study. So, Nur [1993] extended the study of Brownell to include cultural dimensions and tested his model in Indonesia.

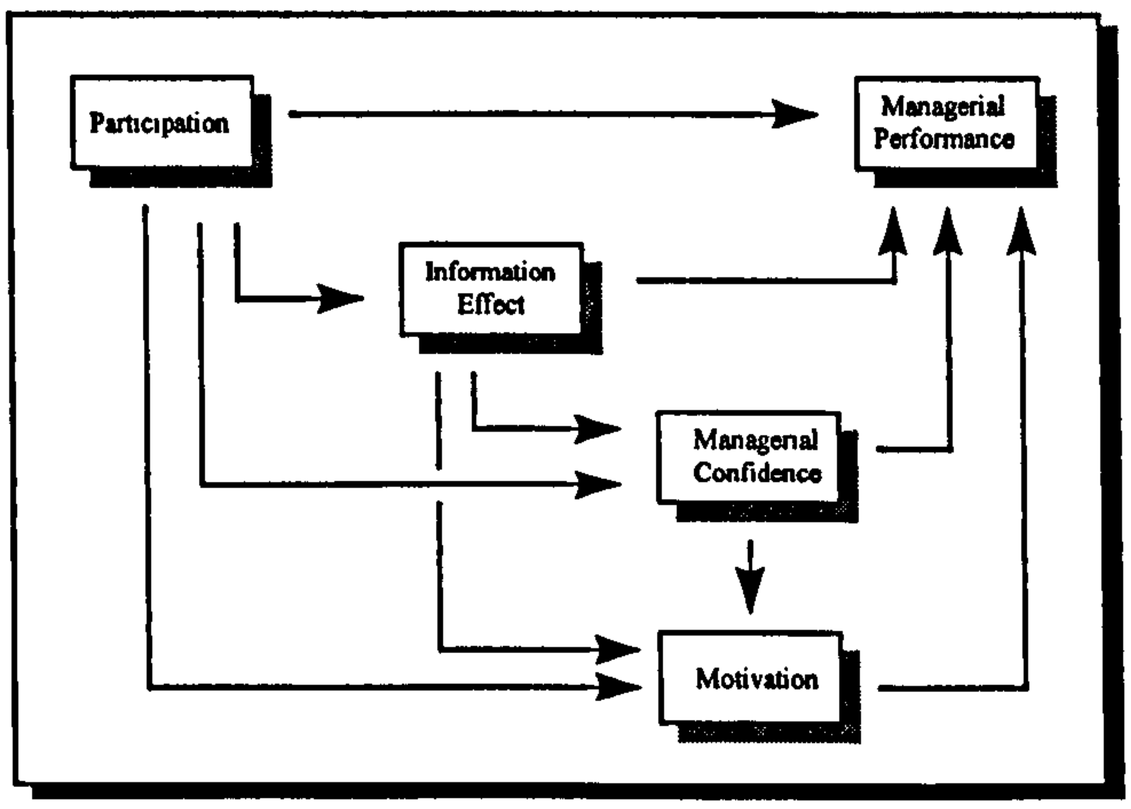
Nur's study found that participative budgeting in Indonesia is positively related to performance. His study failed to find a moderating role of locus of control affecting managers' performance, so these results are contradictory to both Brownell [1981, 1982a] and Frucot and Shearon [1991].

With respect to job satisfaction, Nur [1993] also found that participative budgets were positively related to managers' satisfaction. Again, his study did not find a moderating role of locus of control affecting managers' satisfaction.

Bilbeisi [1989] investigated the effect of culture on the relationship between budgetary participation and performance. He adopted the intervening model of McIness and Ramakrishnan [1987] which consisted of participative budgets, motivation, managerial confidence, information effect and performance (see figure 4.2). The main purpose of his study was to investigate the effect of culture on this model, and whether the effect of American is different from Saudi culture.

Figure 4.2

The intervening model adopted by Bilbeisi [1989]



Bilbeisi's statistical tests showed that there was no significant difference between the USA correlations and the Saudi Arabian correlations linking participation and performance through the intervening variables. However, Bilbeisi saw that the structural

model revealed some significant differences between the United States and Saudi Arabia concerning participation's effect on managerial performance through the intervening variables[1].

Hofstede's cultural dimensions were found to have implications for the appropriateness of participation. These dimensions are power distance and individualism. These two dimensions were identified by Hofstede as the most relevant dimensions for leadership and, therefore, for attributes of leadership, such as the degree of participation. (see Harrison 1992, p.3]).

According to the definition of power distance, in low PD societies, superiors and subordinates regard each other as having equal rights. Therefore, subordinates are expected to be consulted in decisions where they are responsible for implementation. On the other hand, subordinates' reaction to participation is likely to be favourable in situations of high collectivism/low individualism societies. Hofstede [1980, p.230] noticed that, in low individualism societies, there is a belief that group decisions are better than individual decisions. On the contrary, in high individualism societies, there is a belief that individuals' decisions are better than group decisions.

Harrison [1992] used Hofstede's cultural dimensions of power distance and individualism to examine the cross-cultural generalisability of the effect of participation on the relationship between budget emphasis and job related attitudes of subordinates. His study took place in Singapore and Australia. The results, (see p.12) suggested that the effects of participation on the relationship between budget emphasis and job related tension and job satisfaction may be generalisable across cultures which are characterised by high power distance/low individualism and low power distance/high individualism.

Harrison [1993] reported an examination of the effect of culture and personality on the relationship between reliance on accounting performance measures in the evaluative style of superiors and work-related attitudes of subordinates. He found that cultural dimensions affected the way superiors use accounting performance measures when evaluating their subordinates performance (see p.2.24).

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1. For more details see Bilbeisi [1989] pp.180-2.

4-2-2 Organisational Culture

The concept of organisational culture has been studied in organisational and accounting literature. It has an important effect on job related outcomes as will be discussed in the following section.

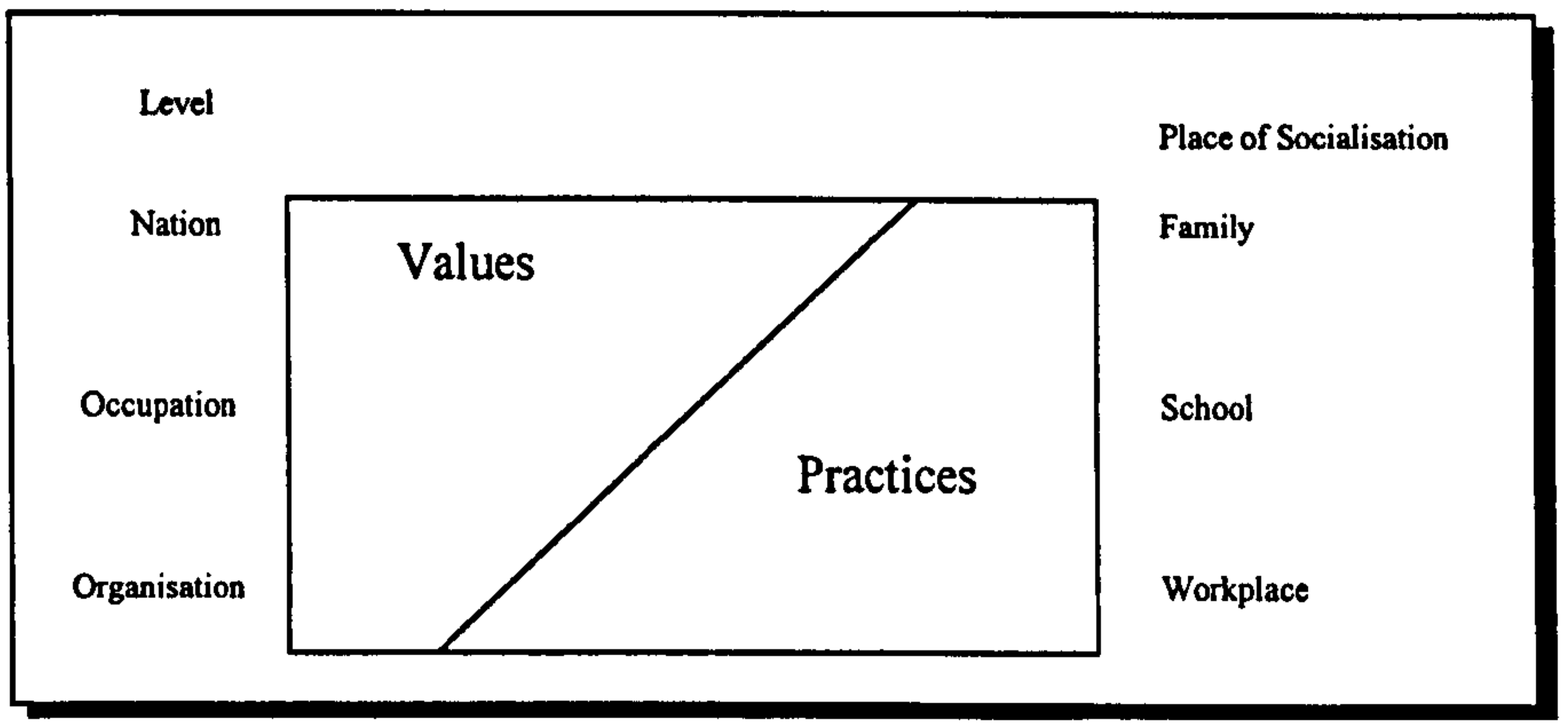
Hofstede [1990] mentioned that the cross-national research in IBM did not reveal anything about IBM's corporate culture, except that it engaged in a survey project of this size. All the units he studied shared the same corporate culture. In other words, the differences in the first study were in values rather than in practices. Therefore, Hofstede et al [1990] conducted another study to discover the dimensions of organisational culture. The study took place in two countries, the Netherlands and Denmark. The sample consisted of 20 units from 10 different organisations. The results (see Hofstede [ibid., p.312 & Hofstede [1994], P.182) indicated considerable differences in practices and small differences in values (see figure 4.3). They concluded the following six dimensions of organisational culture[1].

- Process oriented vs. Results oriented
- Employee oriented vs. Job oriented
- Parochial vs. Professional
- Open system vs. Closed system
- Normative vs. Pragmatic

1. For more definitions about these dimensions see Appendix B.

Figure 4.3

The nature of cultural differences: national, occupational and organisational level



(Adopted from Hofstede [1994])

The effect of organisational culture on budgetary control has been investigated by Subramanian and Ashkanasy [1997]. They argued that the moderating role of organisational culture between budgetary participation and job-related outcomes (job related tension and performance) is neglected in accounting research. They examined organisational culture through two dimensions: innovation and attentions to details. Each of these two dimensions was classified as either high or low. Subramanian and Ashkanasy [ibid.] developed their hypotheses as indicated in the following four categories:

1. High innovation - High attention to detail: this was perceived as Dynamic/Disciplined. Budgetary participation leads to high performance and less job related tension.

2. High innovation - Low attention to detail: this was perceived as Organic/Creative. Budgetary participation leads to high performance and less job related tension

3. Low innovation - High attention to detail: this was perceived as Mechanistic/Role-Oriented. Budgetary participation leads to low performance and high job related tension.

4. Low innovation - Low attention to detail: this was perceived as Stagnant/Reactive. Budgetary participation leads to high performance and less job related tension.

Their results supported their arguments that organisational culture determines the impact of budgetary participation as a mean of producing favourable job related outcomes. More specifically, they found (see page 17) that participative budgeting was associated with decreased job related tension and increased managerial performance in situations of high innovation (Dynamic/Disciplined and Organic/Creative). Their results also found that budgetary participation was associated with high job related tension in Mechanistic/Role-Oriented than in Stagnant/Reactive, although there was no effect of participation on performance.

O'Connor's [1995] provided evidence that organisational culture differences may lead to different responses to participative budgeting. His study was conducted in multinational companies to examine the differences of organisational culture among foreign and local companies (the study took place in Singapore) and its effects on the usefulness of participative budgeting.

The results suggested that among the foreign subsidiaries (low power distance culture) increased participation in budgeting setting was significantly related to lower role ambiguity and a more favourable superiors/subordinates relationship. His results were significantly different from local company sample (which exhibit a high power distance organisational culture).

However, the next chapter will introduce the proposed model adopted in this study and which will be tested in different cultures.

Summary and Conclusion

This chapter has discussed the concepts of both national and organisational cultures and also their effects on budgetary control practices. The definition of national culture was introduced followed the cultural dimensions which was developed by Hofstede [1980] and which has been used to distinguish a society form another. This chapter also provided a summary of some studies which investigated the effect of culture on participatory budgets. The results of the previous works revealed an important role for these cultural dimensions on budgetary control practices.

The most important dimensions which showed significant roles on budgetary participation were power distance and individualism. Little attention has been paid to uncertainty avoidance, but no important role was found for masculinity. Therefor, this research will test the proposed model in different cultures to provide more insight to this area. But as the research questionnaire was quite long, it was not possible to use any cultural measures. Adding more items to the questionnaire would have reduced the response rate. This study will use the results of the previous studies which have been conducted in countries which have similar cultural dimensions to UK and Saudi Arabia to provide explanations about the differences in the results, and this will take place in chapter eleven.

Chapter Five

Research Hypotheses and the Proposed Model

5.1

5 - Research Hypotheses and the Proposed Model

The previous chapters have discussed the aims of this research and the literature review based on which the research hypotheses were derived. This chapter will re-state the hypotheses indicated in chapters two and three all together, followed by the proposed model which will illustrate the nature of theses hypotheses systematically. This chapter also indicates the two analytical approaches adopted in this research by which the proposed model and hypotheses will be tested.

5-1 Research hypotheses

Research hypotheses consist of two groups: the first deals with macro-level variables, whereas the second deals with the micro-level one. As mentioned before, a set of these hypotheses were adopted from previous works and will be replicated to assess the robustness of their conclusions. The rest were developed as they received little attention in past work, and their results may be of value for academic and practitioner in this important area of research.

Although it was argued in the last chapter that culture is a contingent variable in this area of research, it is worth drawing attention here to the fact that the same hypotheses have been applied and tested in all cultures. In other word, no particular hypotheses were proposed for each culture. This approach was adopted because all the replicated hypotheses were developed based on studies conducted in UK and other countries which share similar cultural dimensions (i.e. USA, Australia). This study will explore whether these hypotheses are universal or culturally dependent. Moreover, chapter 11 will provide more explanations about the hypotheses which are expected to be culturally dependent as well as the expected effects that cultural differences would make to the original hypotheses.

5-1-1 Macro-level hypotheses

H-I.1- In large firms there will be a greater level of Budgetary Participation by functional managers.

H-I.2- The greater the environmental uncertainty, the greater the degree of participation in the budgetary process.

H-I.3- High participation in the budgeting process will be found in firms where automation is high and vice versa.

H-I.4- There is greater participation in setting budgets by managers in firms which have low product standardisation than in firms which have high product standardisation

H-I.5- The positive relationship between the level of participation in the budgetary process and motivation (hypothesis H-II.3) will increase when managers' superiors have a leadership style characterised by high consideration and low initiation structure.

H-I.6- Managers are more likely to be evaluated on the basis of budget emphasis if their superiors have a leadership style characterised by high initiation structure.

H-I.7- Budget emphasis plays a moderating role between budgetary participation and both performance and satisfaction as follow.

H-I.7a- when budget emphasis is high, there is a positive relationship between budgetary participation and performance;

H-I.7b- when budget emphasis is high, there is a positive relationship between budgetary participation and satisfaction.

H-I.8- Greater budget emphasis increases managers' motivation to achieve budget targets when they perceive a high level of participation in setting their departments' budgets.

H-I.9- When managers are in a position of having more information than their superiors:

H-I.9a- high participation in the budgetary process will increase managers' motivation to achieve budget;

H-I.9b- high participation in the budgetary process will increase managers' propensity to create slack.

H-I.10- There is a positive relationship between company size and the degree of information asymmetry. In other word, in large organisations, subordinates hold more information than their superiors.

H-I-11- Job difficulty plays a moderating role between budgetary participation and performance, namely, when job difficulty increases, the positive relationship between budgetary participation and performance will increase.

5-1-2 Micro-level Hypotheses

H-II.1a- There is a positive relationship between budgetary participation and performance.

H-II.1b- There is a positive relationship between budgetary participation and satisfaction.

H-II.2- Managers will allow their subordinates a high level of participation in the budgetary process if they perceive themselves as having a high degree of participation in the budgetary process.

H-II-3- Budget goal difficulty moderates the relationship between budgetary participation and both motivation and slack, as follows:

H-II-3a- when goal difficulty is high, a high level of budgetary participation leads to high motivation;

H-II-3b- when goal difficulty is high, a high level of budgetary participation decreases the propensity of managers to create budgetary slack.

H-II.4- Budget goal clarity moderates the relationship between budgetary participation and both performance and satisfaction:

H-II.4a- when budget goals are clear, high participation in the budgetary process will be associated with high performance;

H-II.4b- when budget goals are clear, high participation in the budgetary process will be associated with high satisfaction.

H-II.5- Budgetary participation and locus of control interact affecting managers' propensity to create slack. In situations of high budgetary participation, internals are less likely to create budgetary slack, and externals more likely to do so.

H-II.6- There is a positive relationship between budgetary participation and motivation to achieve budgets.

H-II.7- Budget motivation plays a moderating role between budgetary participation and performance. When managers are highly motivated to achieve budgets, the positive relationship hypothesised in H-II.1a will increase.

H-II.8- Budget motivation plays a moderating role between budgetary participation and satisfaction. When managers are highly motivated to achieve budgets, the positive relationship hypothesised in H-II.1b will increase.

H-II.9- When managers perceive a high degree of participation in the budgetary process, their propensity to create budgetary slack decreases. In other words there is a negative relationship between budgetary participation and slack.

H-II.10- Superiors' ability to detect slack plays a moderating role between budgetary participation and budgetary slack. When superiors have a high ability to detect slack, high participation in budgetary process will decrease managers' propensity to create slack.

H-II.11- Budgetary slack plays a moderating role between budgetary participation and performance. In other words, when managers' propensity

to create slack increases, high participation in the budgetary process will decrease their performance level.

H-II.12- Budgetary slack plays a moderating role between budgetary participation and satisfaction. In other words, when managers' propensity to create slack increases, high participation in the budgetary process will increase their satisfaction.

5-2 The Proposed Model

The proposed model has been constructed based on the hypotheses indicated above. It shows systematically the relationships between two sets of variables which have been used extensively in this area of research and which were discussed in chapters two and three. As mentioned earlier, the first set consists of organisation size, environment uncertainty, technology (process automation and product standardisation), budget emphasis, consideration, initiation structure, information asymmetry, and job difficulty. Whereas the second set consists of budgetary participation, budget motivation, budgetary slack, budget goal clarity, budget goal difficulty, locus of control, satisfaction and performance. However, the next chapter explains in detail the measures which were used in this study to test each variable.

The proposed model was tested using two complementary analytical approaches, the first is the moderating approach (see figure 5-A-1 in the appendix of this chapter); the second is the intervening approach (see figures 5-A-2 to 5-A-7). Before proceeding to explain the construction of each approach, a brief explanation about the differences between these two approaches is necessary.

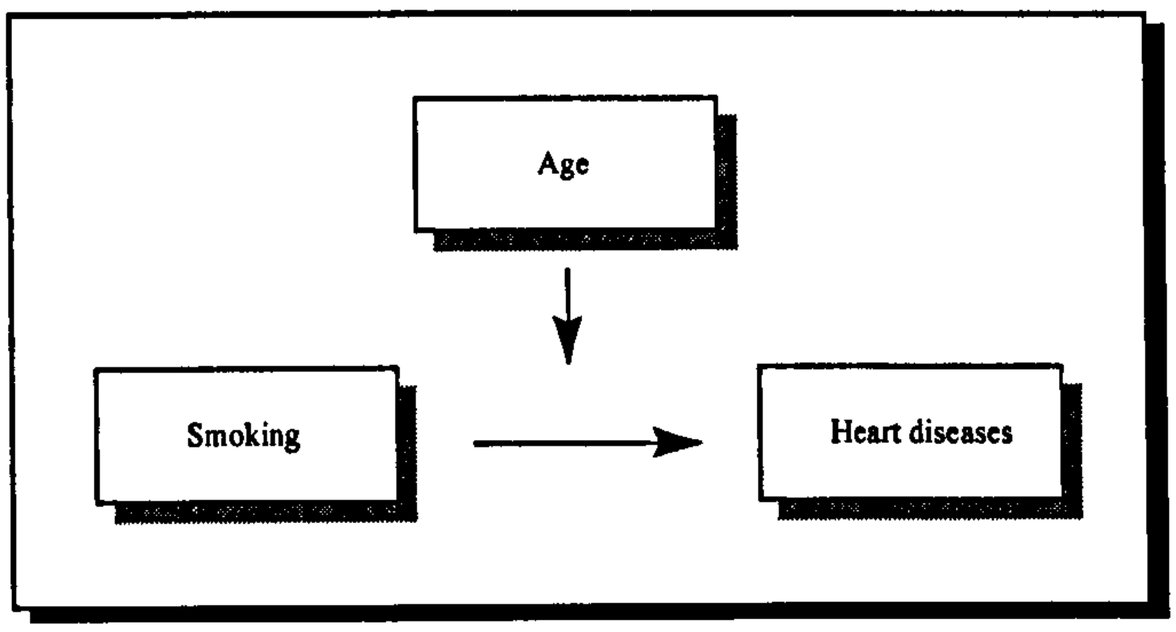
5-3 Moderating and Intervening Approaches

A moderating variable is one that influences the sign or level of association between two variables. In other word, the direct effect of an independent variable on a dependent one is affected by a third variable. For example, when a researcher tried to find the relationship between smoking and heart diseases in a society he did not find a significant relationship between them. Then he grouped his respondents into two

categories. The first consisted of respondents who were aged between 15 to 35, whereas the second consisted of respondents who were aged from 36 and over. Then he ran his analysis again and found that smoking had insignificant relationship with heart diseases in the first group (15 to 35), whereas there was a positive relationship between them in the second group (36 and over). We can say that age played a moderating role between smoking and heart diseases as indicated in figure 5.1.

Figure 5.1

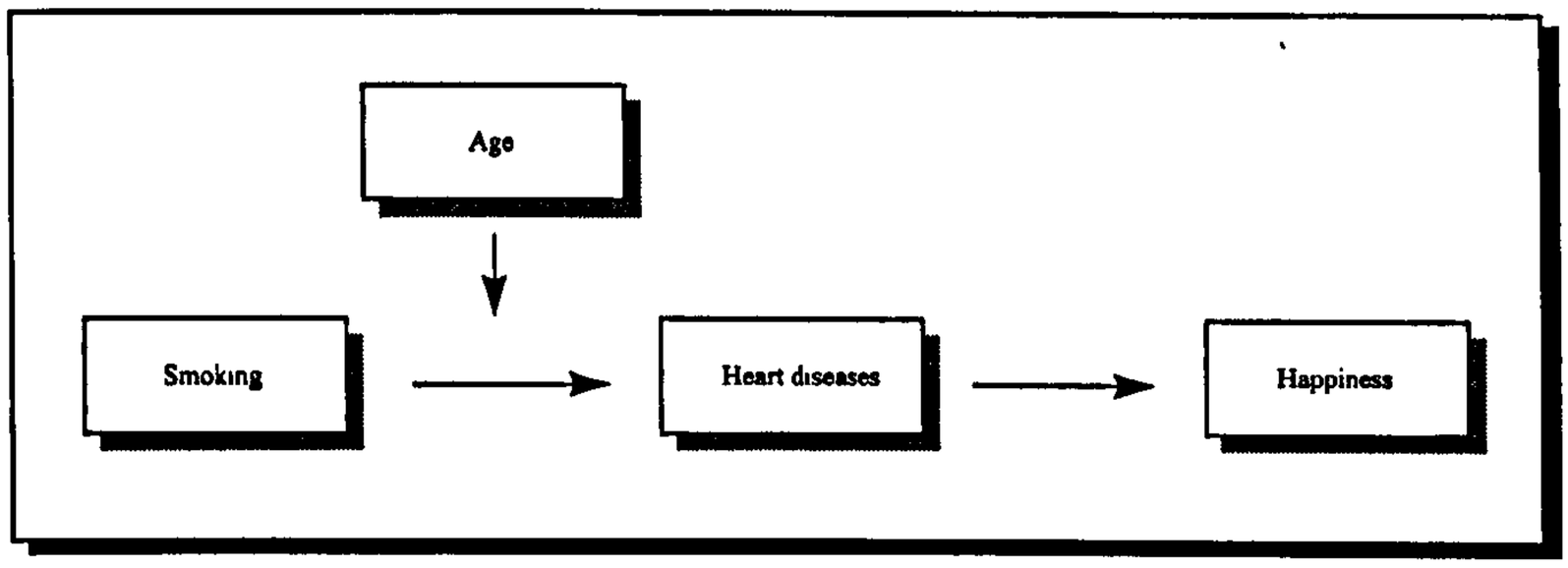
The moderating role of age between smoking and heart diseases



As shown in figure 5.1 age was related neither to smoking nor to heart diseases. It influenced indirectly the relationship between smoking and heart diseases. On the other hand, an intervening variable is both directly affected by and directly affects other variables. In the previous example if we supposed that same researcher wanted to extend his study further to test the effect of heart diseases on happiness. He found, for example that heart diseases are negatively related with happiness. According to this discussion we may find that smoking has affected happiness indirectly. It increased heart diseases which in turn decreased happiness. Therefore, we can say that heart diseases has an intervening role between smoking and happiness as shown in figure 5.2.

Figure 5.2

The intervening role of heart diseases between smoking and happiness



An important feature of the intervening approach is that a researcher can use the results of statistical techniques such as path analyses (see chapter six), to compare direct and indirect effects. This will help to assess whether the direct effect contributes more than the indirect or vice versa, and it can provide the percentage of the indirect effect to direct one.

In the accounting literature in general, and in the area of budgetary participation in particular, these two approaches have been used frequently by various researchers. The following example shows how different researchers perceived a particular relationship using these two approaches.

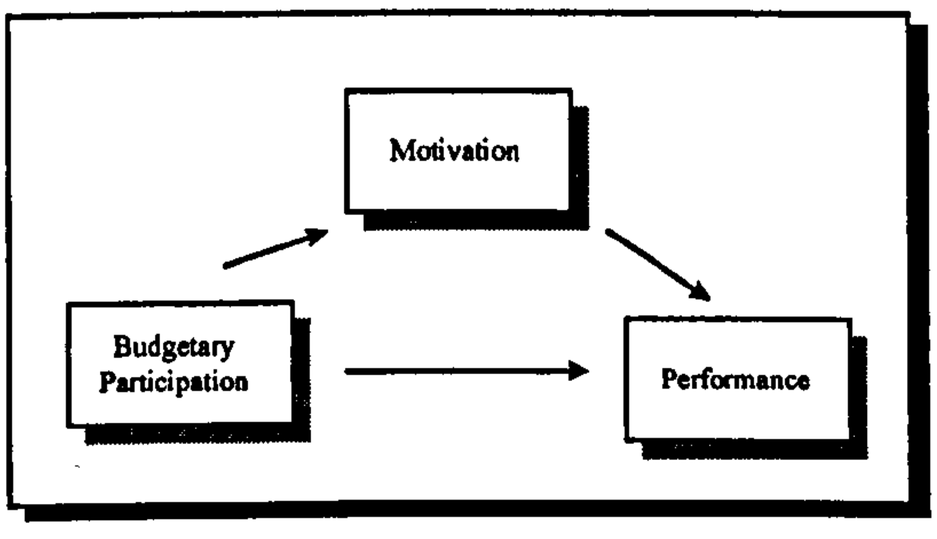


Figure 5.3

Model showing motivation as an intervening variable
(Adopted from Brownell & McInnes [1986])

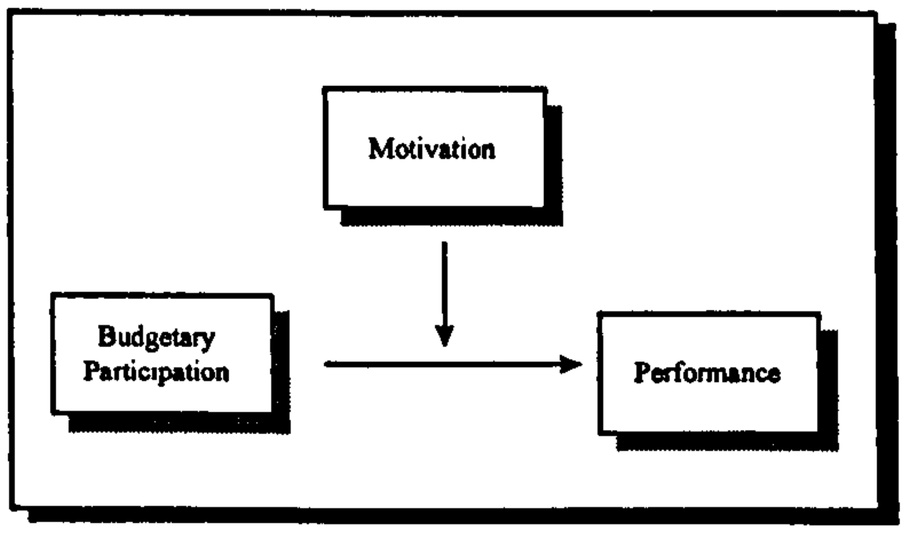


Figure 5.4

Model showing motivation as a moderating variable
(Adopted from Mia [1988])

According to figure 5.3 Brownell & McIness [1986] proposed that high participation in budgetary process increases managers' motivation which consequently increases their performance. Whereas Mia [1988] proposed that for managers who are

highly motivated to achieve their work and budget, high participation increases their performance. In other word, the proposition of Mia argues that budgetary participation enhances performance for managers who are highly motivated to achieve budget.

The literature argues that understanding a particular relationship is dependent on the approach adopted. For example, the study of Brownell & McIness [1986], which was discussed in chapter three, failed to find an intervening role for budget motivation between budgetary participation and performance, whereas the study of Mia [1988] which tested the contingent role of motivation using the moderating approach found a positive role.

On the other hand, we may find that both moderating and intervening approaches are suitable for a particular relationship. For example H-I.11 which argues that when a job is difficult, high participation increases managers' performance. According to this hypothesis participation has a positive effect on performance when a job is difficult. On the other hand, in the intervening approach it is possible to argue that high participation will provide managers with high job-related information by which they will perceive their job less difficult and thus they will perform better. The following figures may indicates this.

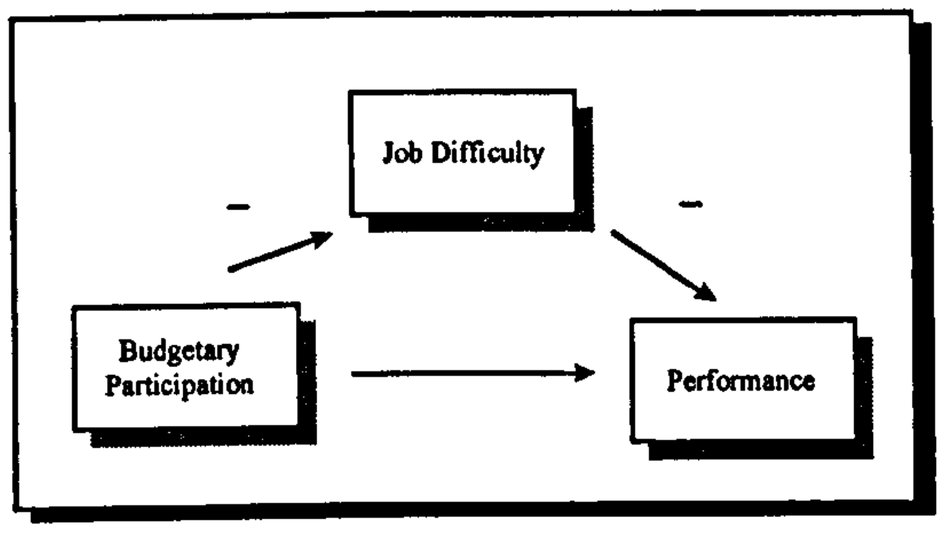


Figure 5.5
The positive role of participation on performance when job difficulty is low

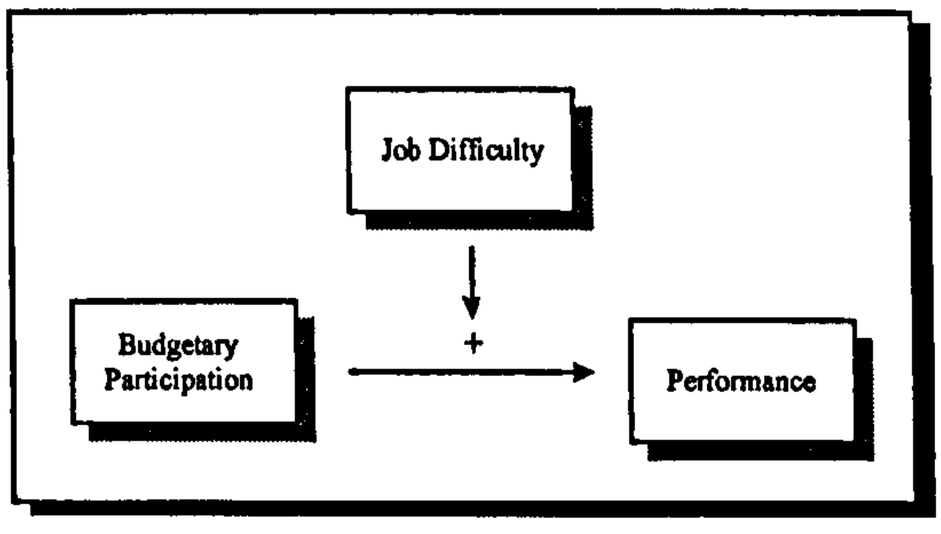


Figure 5.6
The positive role of participation on performance when job difficulty is high

The previous figures show that in the moderating approach budgetary participation increases managerial performance when job difficulty is high, whereas in the intervening approach budgetary participation increases managerial performance when job difficulty is low. The researcher applied these two approaches to test the research

hypotheses to provide insight into these hypotheses from different points of view. Chapter eleven will provide more explanations about the appropriate analytical approach for each hypothesis.

5-3-1 The Moderating Model. The construction of the proposed model is illustrated in figure 5-A-1 in the appendix of this chapter. As indicated, the model starts with four macro level variables: organisation size, environment uncertainty, process automation, and product standardisation. It is hypothesised that these four variables determine the level of budgetary participation (see hypotheses H-I.1, H-I.2, H-I.3, and H-I.4).

As shown in figure 5-A-1, the effect of budgetary participation on both performance and satisfaction will be tested directly (see hypotheses H-II.1a & b), and then indirectly by examining the moderating effects of both budget motivation and budgetary slack (see hypotheses H-II.7 & 8, H-II.11a & b). Another nine macro and micro level variables will be tested as moderating variables between budgetary participation and budget motivation, budgetary slack, performance, and satisfaction according to the research hypotheses indicated in the beginning of this chapter. Figure 5-A-1 indicates the nature of the relationships between variables investigated in this study clearly.

5-3-2 The Intervening Model. To test the intervening approach, path analysis was chosen as the most suitable technique. Path analysis has been used widely in psychological research and, in particular, behavioural accounting research (see, for example: Brownell and McIness [1986], Mia [1987], Kren [1992a], Sheilds and Young [1993]). The theoretical background of this technique will be discussed in detail in chapter six.

To construct the intervening model by which research hypotheses will be tested, it was necessary to make a minor change to the proposed model shown in figure 5-A-1. As the structure in path analysis should be linear, and, according to the definitions of moderating and intervening approaches which were discussed earlier, moderating effects

do not exist in path analysis. Consequently, all the variables which played moderating roles in the moderating approach were considered as intervening variables here.

From the research hypotheses, we can find that there are three sets of dependent variables, the first are the ultimate dependent variables as they do not have any other roles, and these variables are performance and satisfaction (see hypotheses H-II1a & b, HI.4a & b, H-I.7a & b, H-II.7 & 8, H-II:11&12). The second set consists of both budget motivation and budgetary slack. These two variables play dependent roles in some relationships (see hypotheses H-II.6, H-II.9, H-I.8, H-I.5, H-II.3a & b, H-I.9a & b, H-II.10), at the same time they play intervening roles in others (see hypotheses H-II.7 & 8, H-II.11&12). The third set is a single variable, namely, budgetary participation, and it plays a dependent role to the contingency variables (see hypotheses H-I.1, 2, 3 & 4), as well as it plays an independent role for all other hypotheses.

According to the previous discussion it is clear that there are also two groups of intervening variables. The first, consists of nine variables which played moderating roles in the moderating approach and they are considered as intervening in this approach. These variables are budget emphasis, consideration, initiation structure, information asymmetry, budget goal difficulty, budget goal clarity, locus of control, ability to detect slack, and job difficulty[1]. The other set of intervening variables consists of budget motivation and budgetary slack. Figure 5-A-2 in the appendix of this chapter shows the path diagram for the intervening model.

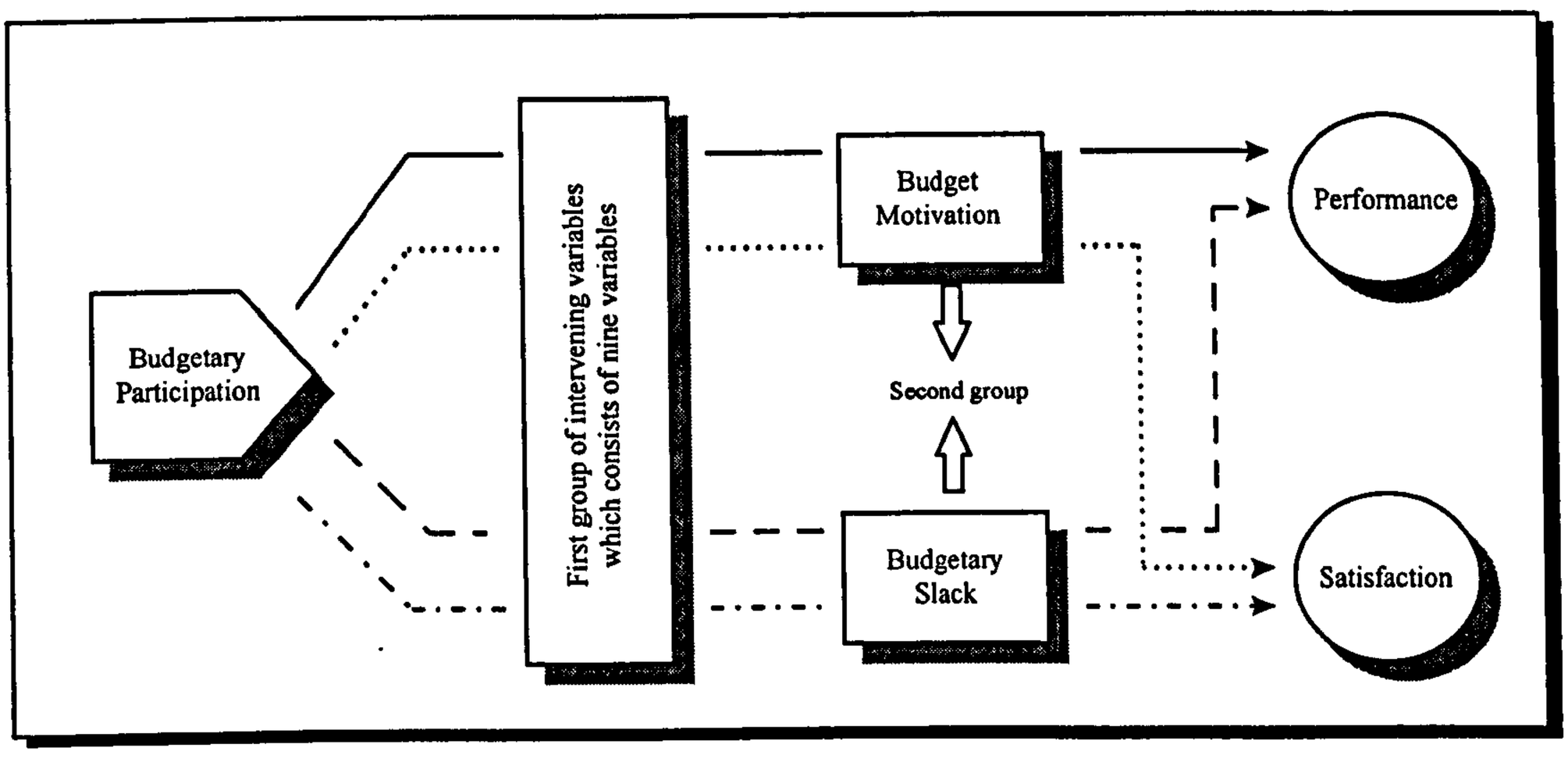
To simplify understanding and testing the model indicated in figure 5-A-2, it was divided into four sub-models (see figures 5-A-3, 5-A-4, 5-A-5, 5-A-6). Each sub-model has its own equations, and hence results which will either support or reject some of the research hypotheses (these equations are in appendix C at the end of the thesis. All sub-models have the same starting point, as all start with the four contingency factors which affect the level of budgetary participation. These four variables are organisation size, environment uncertainty, process automation, and product standardisation (see figure 5-A-3).

1. Chapter six discuses the measures which were selected to test these variables.

The four sub-models are different from this point. Sub-model 1 (see figure 5-A-4) tests the effect of budgetary participation on performance through the first set of the intervening variables (which consist of nine variables) and budget motivation. Sub-model 2 (see figure 5-A-5) tests the effect of budgetary participation on satisfaction through the first set of the intervening variables (which consist of nine variables) and budget motivation. Sub-model 3 (see figure 5-A-6) tests the effect of budgetary participation on performance through the first set of the intervening variables (which consist of nine variables) and budgetary slack. The last sub-model (see figure 5-A-7) tests the effect of budgetary participation on satisfaction through the first set of the intervening variables (which consist of nine variables) and budgetary slack. However, the following figure 5.7 summarises the four sub-models.

Figure 5.7

Summary of the four sub-models



Chapter six will discuss in detail the methodology adopted in this research and it will also discuss the instruments which have been chosen from the literature to measure both macro and micro level variables.

Summary and Conclusion

This chapter has introduced the two approaches adopted in the current study to test the research hypotheses and they are moderating and intervening. Accounting literature suggests that two approaches explain the relationship between budgetary participation and both managers performance and satisfaction. These two approaches are complementary to understand a particular relationship.

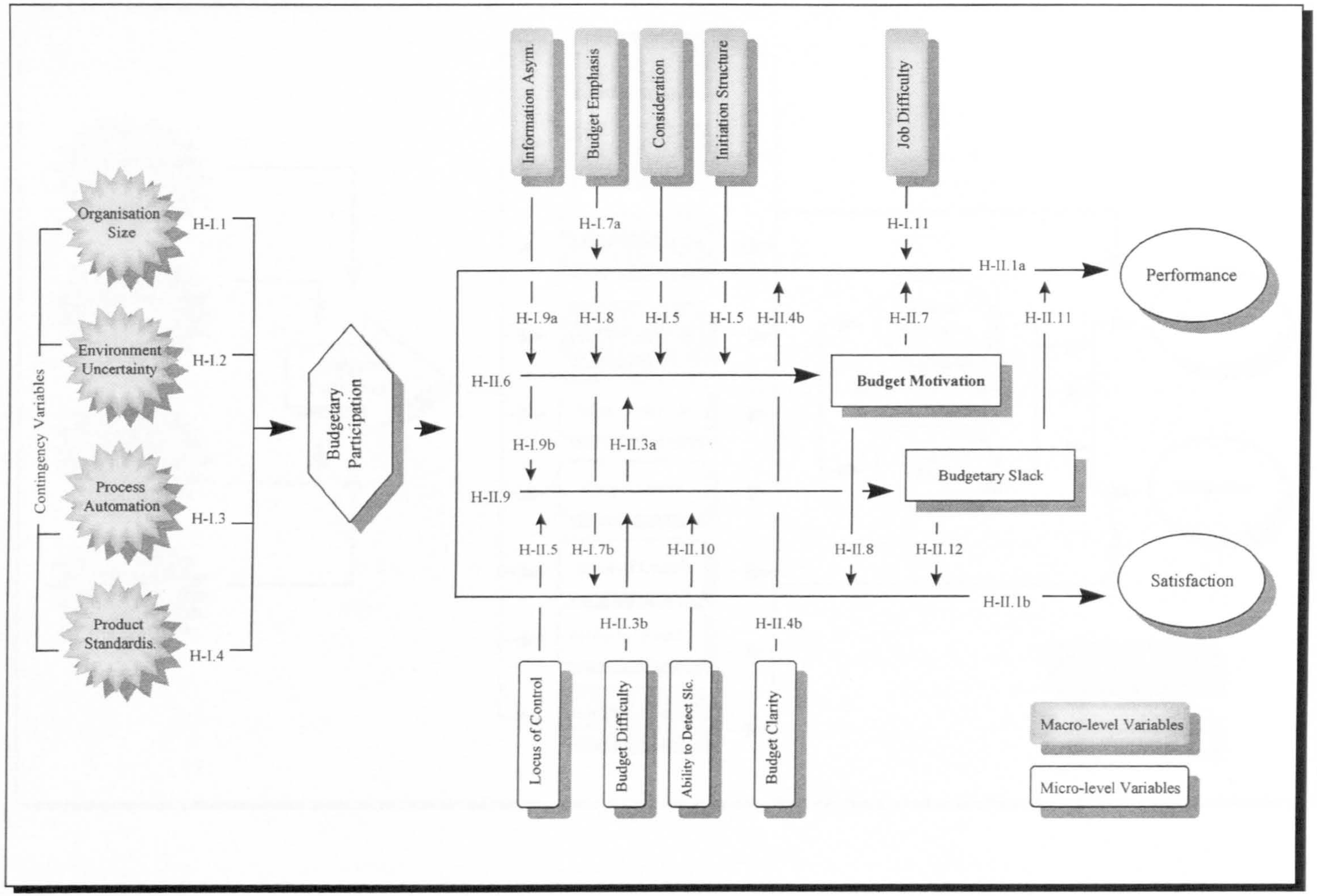
The model started with four contingency variables which were used extensively in previous research to test their effect on the level to which managers are involved in setting their department budgets. The effects of budgetary participation on both managers' performance and satisfaction were tested directly, and indirectly through eleven variables were perceived once as moderating and second as intervening. This chapter has also re-introduced research hypotheses based on which the proposed model was structured.

The next chapter introduces research methodology to test the proposed model. It includes research site, measures of variables included in the model, the results of testing its reliability in the current research and, finally, the statistical techniques to test both moderating and intervening approaches.

Appendix of Chapter Five

Figure 5-A-1

The proposed model "moderating approach"



Symbols beside the arrows refer to the number of the hypotheses

Figure 5-A-2

The proposed model (intervening approach)

(THE GENERAL MODEL)

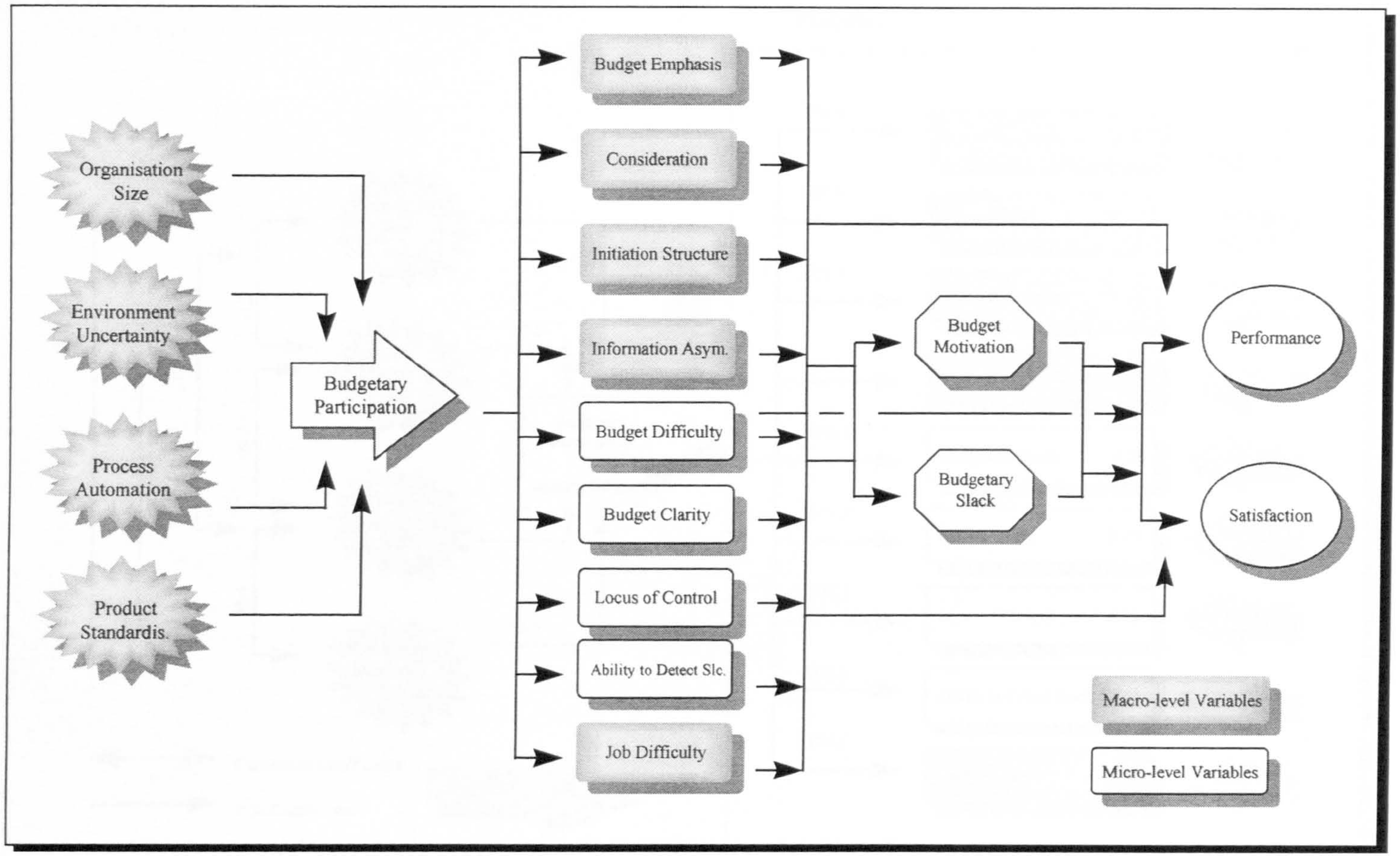


Figure 5-A-3

Path diagram for the proposed model

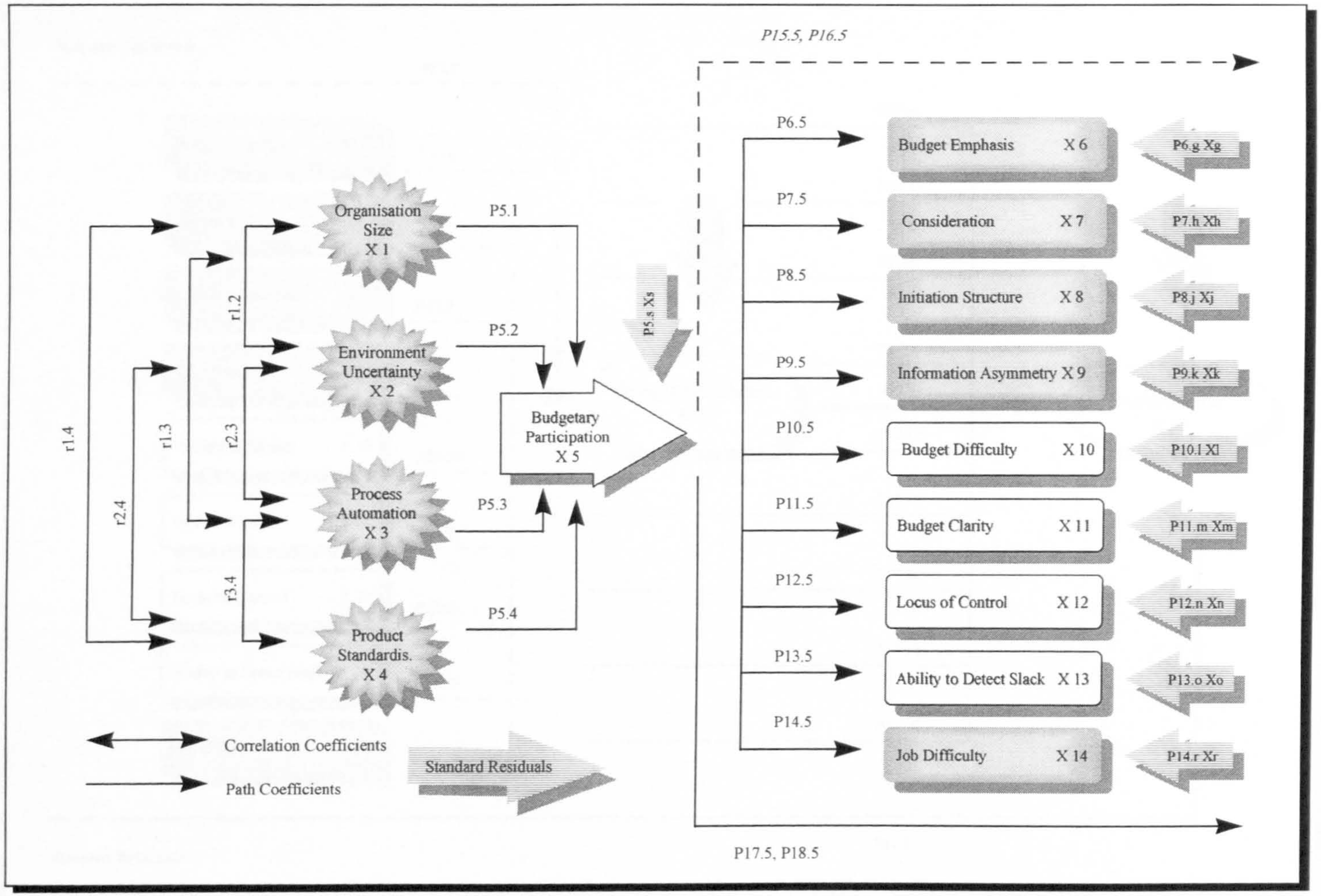


Figure 5-A-4

Path diagram for the proposed model

SUB-MODEL 1

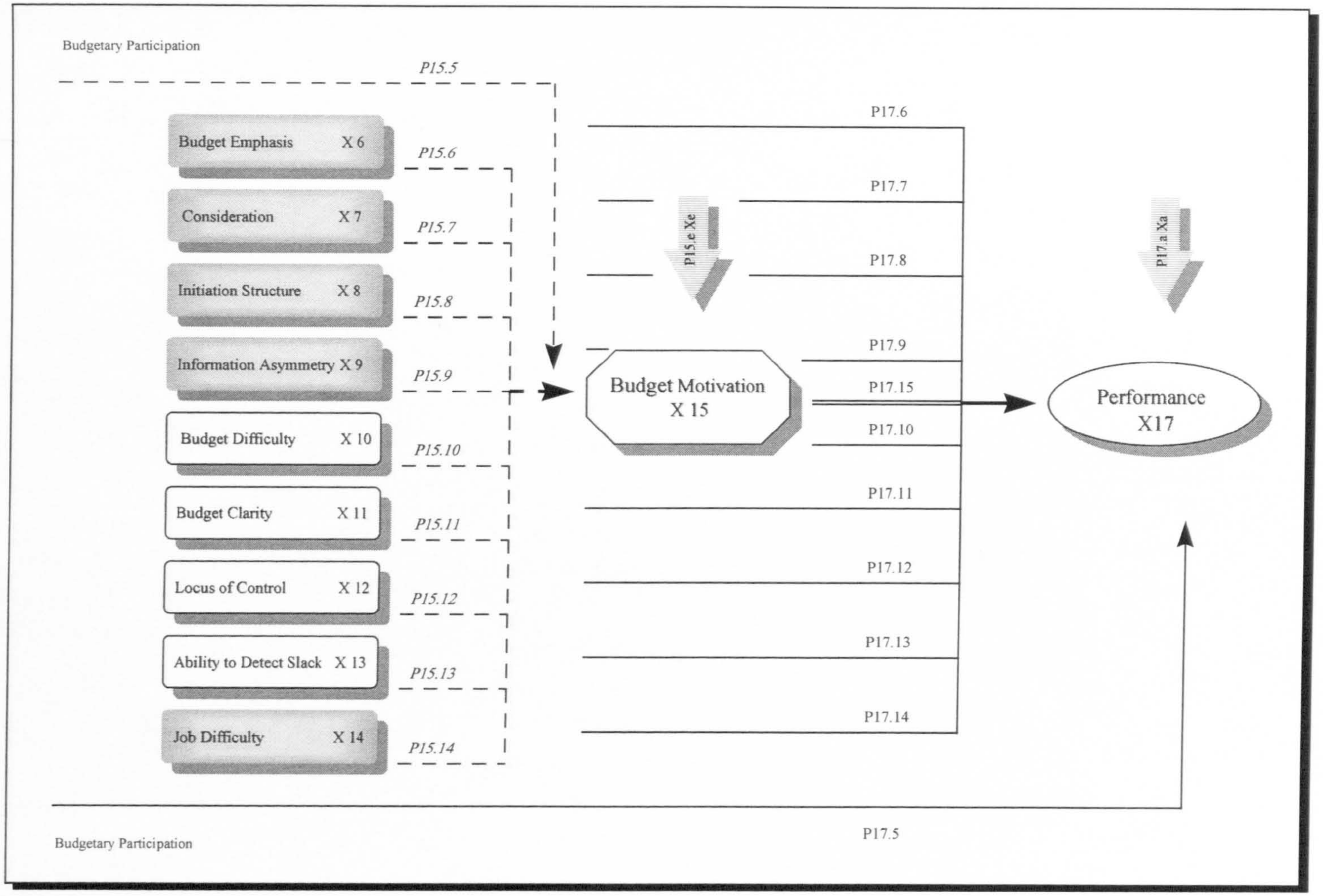


Figure 5-A-5

Path diagram for the proposed model

SUB-MODEL 2

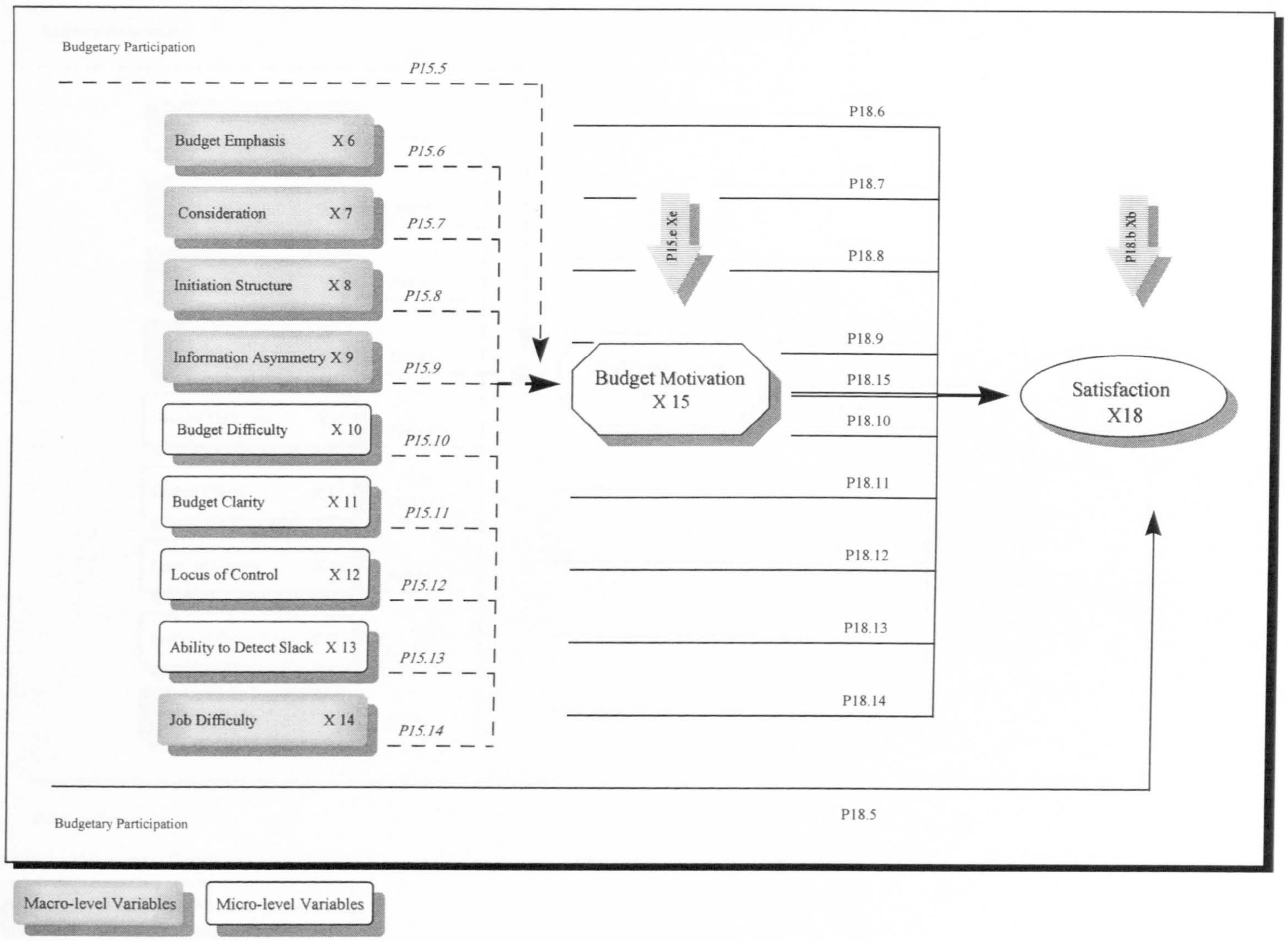


Figure 5-A-6

Path diagram for the proposed model

SUB-MODEL 3

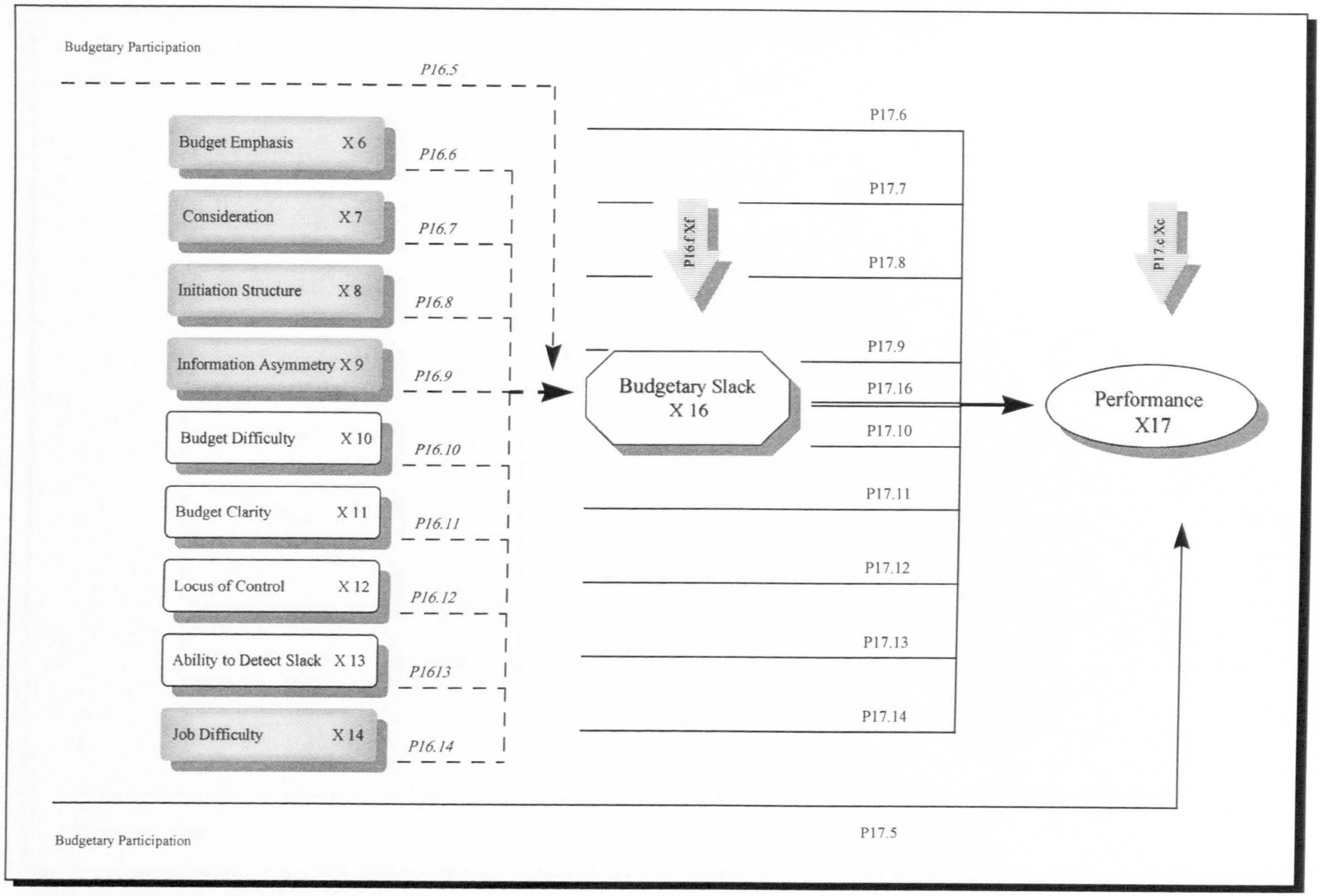
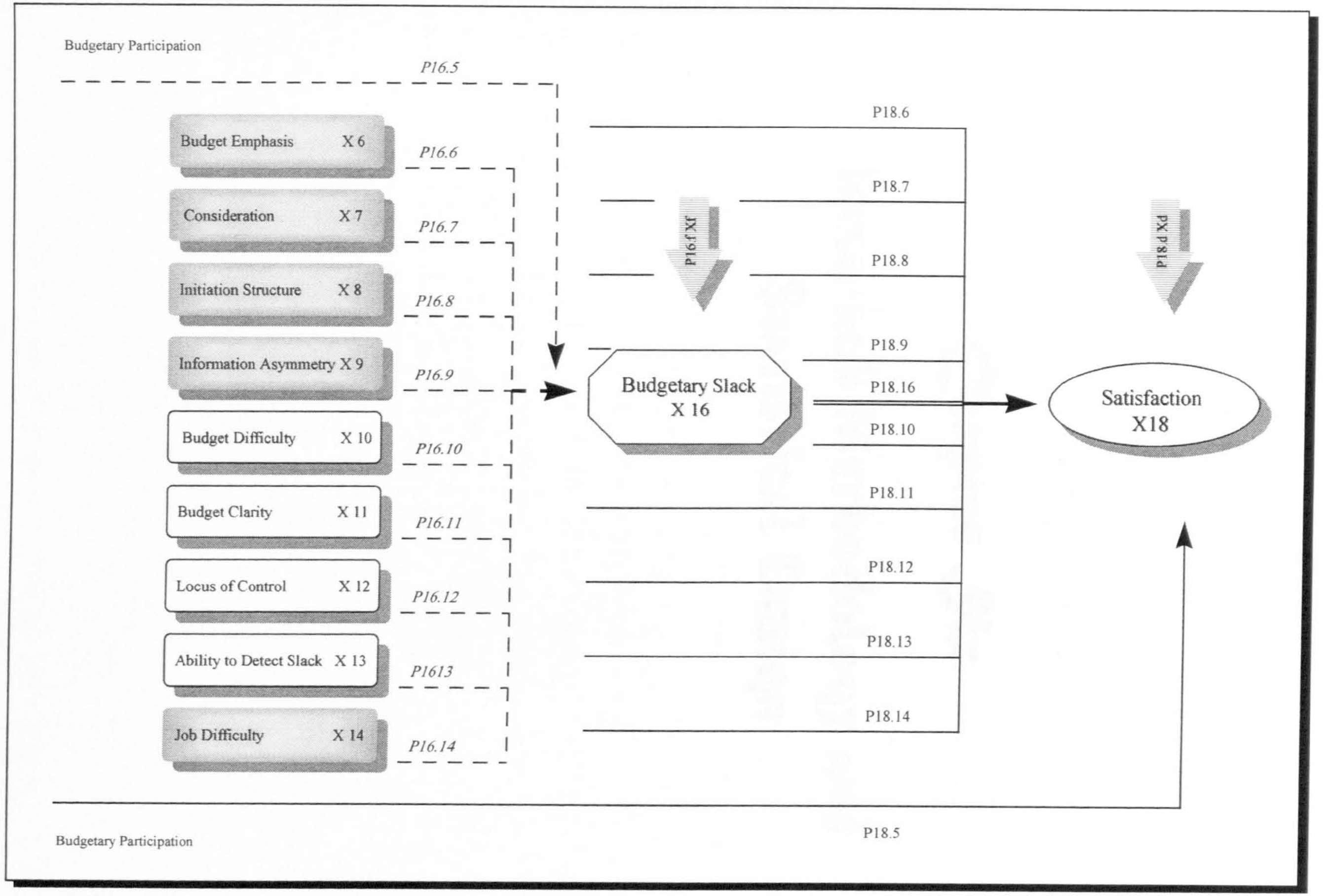


Figure 5-A-7

Path diagram for the proposed model

SUB-MODEL 4



Chapter Six

Research Methodology and Statistical Design

6. 1

6- Research Methodology and Statistical Design

6-1- Research Methodology

This chapter introduces the methods adopted to test the proposed model. It includes details of the research sites, the method of collecting data, implications of the size of the samples and translation, and the measures used. At the end of this chapter path analysis is discussed to provide more explanation about its assumptions.

6-1-1 Research Sites

The proposed model was tested on a group of functional managers chosen from two countries, UK and Saudi Arabia. UK was chosen as the primary field study to test the proposed model because this research includes a replication of some of previous hypotheses which have been conducted by different scholars in UK and other countries which share similar cultural dimensions (e.g. USA and Australia). Saudi Arabia was chosen to replicate the study which has been conducted in UK using two samples, Saudi (locals) and Arab (non-locals) functional managers to see whether or not the results of the proposed model are culturally dependent. Saudi Arabia and UK have been examined in previous work and there was evidence that they are culturally different. The best way to summarise the cultural differences between UK and Saudi Arabia is to compare the scores reported by both Hofstede [1994] and At-Twaijri & Al-Muhaiza for each cultural dimension. Table 6.1 indicates these differences.

Table 6.1

Hofstede's cultural dimensions in UK, Saudi and Arab countries

Dimensions	UK *		Arab *		Saudi !
	Score Rank	Score	Score Rank	Score	Score
Power Distance	42\44	35	7	80	61
Individualism	3	89	26\27	38	41
Masculinity	9\10	66	23	53	53
Uncertaincy Avoidance	47\48	35	27	68	88

*** Adopted from Hofstede 1980**

! Adopted from At-Twaijri and Al-Muhaiza

It should be noted that this research did not employ cultural measures. Therefore, the scores of Hofstede's cultural dimensions reported by Hofstede [1980] and At-Twaijri & Al-Muhaiza were used as a base to show how these two countries are culturally different. From table 6.1 we can see that there are substantial cultural differences between the UK and Arab countries in general, and between the UK and Saudi Arabia in particular in each of the four dimensions as well as in each score rank (rank of the sample within the fifty three countries which were studied by Hofstede).

The scores of Hofstede [1980] have at least three limitations: first, the study was conducted in the 70s, so it is not wise to argue that over the past three decades cultural dimensions remained the same. Second, in spite of the fact that Arab cultures share similar dimensions, each of them has its own characteristics, and the study of Hofstede did not provide that. Third, the study of Hofstede was conducted using a sample from a single organisation, and we can strongly argue that organisational culture may prevail over national culture. A strong defence to the first and third points is indicated in figure 6.2

Table 6.2

Scores of power distance and individualism in Singapore

Singapore	Power Distance	Individualism
Hofstede 1980	74	20
Harrison 1992	92	36
Harrison et al 1994*	73	46
O'Connor 1995		
Combined	61	56
Local companies	72	65
Foreign companies	53	50
Lau et al 1997	60	41

*** Adopted from O'Connor 1995**

Table 6.2 provides support to the first point as cultural scores have been changed through different years for the same country (Singapore). This table also limits the

results of Hofstede [1980] as it shows cultural scores for a single country are different between local and foreign companies. With reference to the second point, the study of At-Twaijri & Al-Muhaiza which was applied in the GCC (Gulf Co-operation Council) countries provided evidence that there are some differences between Arab in these cultural dimensions.

Although the study of At-Twaijri & Al-Muhaiza can provide a base to show the cultural differences between UK and Saudi Arabia, it has certain limitations. First, the study of Hofstede was applied in the 70s, and that of At-Twaijri & Al-muhaiza was applied in the 90s. This twenty year difference may have caused some of the differences. The second, the study of At-Twaijri & Al-Muhaiza was applied in a single industry (oil companies), so their results are less generalisable. However, both studies can be used as a base to show how UK and Saudi Arabia are culturally different.

Data were collected using a survey questionnaire from functional (responsibility) managers in manufacturing, finance, commercial and service companies in Saudi Arabia and UK. Those managers reflected different areas of responsibilities (profit centres, cost centres, revenue centres). It was decided to select managers from different companies rather using a single company. Of course the results of using sample from single company are more accurate, but at the same time these results are less generalisable. Nouri & Parker [1996] confirmed this point of view when they considered their results limited as the sample was selected from one company.

As the research required collecting data from different functional managers in each company, it was necessary to get the approval of the functional managers who would distribute the questionnaires to their colleagues before sending them, and also to determine the departments which would be involved.

6-1-2 Collecting data

6-1-2-1 Britain

Data was collected first from British companies. Companies were selected non-randomly from "UK Kompass Business Directory". It was focused on companies in Bristol and the surrounding areas. It was determined to contact companies which had

one hundred or more employees, because it was expected that companies with a small number of employees would be less likely to have clear budgeting systems. This number has been considered in other accounting research such as Subramanian and Ashkanasy [1997] and Dunk [1993]. About one hundred and fifty letters were sent to different companies explaining the nature of the study and seeking the approval to distribute the questionnaire to different functional managers in each company.

Only a very few positive answers were received, so that it was necessary to contact the companies that did not reply by telephone to encourage them. At first, fifty questionnaires were sent to the companies which agreed to participate. The first twenty completed questionnaires were used as a pilot study to check the following matters:

a- question wording;

b- the length of the questionnaire.

No problems were found in question wording. Regarding the length of the questionnaire the researcher found that the average time spent answering the questionnaire was 24 minutes. Therefore, the researcher continued to contact companies and distribute the questionnaire. The researcher found that phone calls had better results than letters. In each company phone calls were made with a functional managers (e.g. financial director, personnel manager, or public relationships manager) explaining the nature of the study and convincing them to encourage their colleagues to participate in the study.

Managers were promised that all data will be strictly confidential and will be used for scientific research purposes, they were also told that their names and their companies' names will not be mentioned in the study as the research is dealing with a wide-ranging sample. Some managers mentioned that they will select personally some of their colleagues to participate. Others said they will distribute the questionnaire to their colleagues in different departments and it is up to them as it is voluntary work.

Questionnaires were sent to those managers each with a pre-paid envelop to return the questionnaire directly to the researcher. After deleting the invalid questionnaires, a

sample of 65 (of 240) was used in the analysis from 20 company yielding a response rate of 27%. It was noticed that some respondents did not answered all items in some questions. For example some measures consist of six items, some respondents answered for example four and left two items. In order to avoid bias in the analysis, each question had missing items was considered as missing only for this respondent. Thus the number of cases is given for each analysis.

6-1-2-2 Saudi Arabia

Collecting data in Saudi Arabia was more problematic than the UK for two reasons: first, it was necessary to translate the questionnaire into Arabic, as companies employs Saudi and other Arab managers. Second, the researcher tried to obtain samples from different cultures. Contact was made with companies in three cities, Jeddah, Riyadh, Yanbo. Consistent with the UK sample, the researcher focused only on companies which employ more than one hundred to ensure there was a clear budgetary system.

Companies were selected also non-randomly using some directories obtained from the information centre of Jeddah chamber of commerce and industry. In addition, managers in some big companies were personally approached using access of some friends who work in those companies. To distribute the questionnaire to different functional managers in each company, the same procedures as in UK were followed. Contact was made with a functional manager (e.g. financial director, personnel manager, or public relationships manager). Personal visits were made to companies in Jeddah and phone calls were made with companies in Riyadh and Yanbo.

Questionnaires were given to managers who agreed to participate. The questionnaires distributed were in two versions, Arabic and English, as some managers were from far east countries such as India, or Philippines. The first thirty questionnaires returned were chosen as a pilot study. Both question wording and the length of the questionnaire were checked. There were some inquiries regarding certain items and it was explained to the managers what the researcher meant by these items. Regarding the length of the questionnaire, no objections were found.

The researcher continued contacting companies and distributing the questionnaire. About two hundred and twenty questionnaires were distributed, and 134 (61%) were returned. After deleting invalid copies, a sample of 118 (53%) remained to be analysed. Then it was noticed that 27 (12%) questionnaires were from different cultures; Indian, European, Philippine and others. So they were excluded from the research as they were from cultures which shared no similarities, and the number of each group was insufficient for analysis to be reliable. Thus, the study focused only on Saudi (locals) and other Arab (non-locals) managers. It was not acceptable in this research to combine these two groups into one sample for three reasons.

First, the results of *Mann-Whitney test* showed that some variables (see table 6.3) are significantly different in these two groups. Table 6.3 indicates that budget emphasis and subordinates participation in budgetary process had no significance differences in all of the three samples. Although these two variables were similar, it was not possible to combine them. The reason is that some variables (i.e. performance) that were hypothesised to have an interactive effect with budget emphasis had significant differences between the three cultures. From table 6.3 we can see that there were only seven variables which were significantly different between the Saudi and Arab samples, and this reflected substantial similarities between these two groups.

6.7

Table 6.3

Mann-Whitney test for the three samples

Variables	Saudi (S) - British (B)				Saudi (S) - Arab (A)				Arab (A) - British (B)			
	(S) no. of cases	(B) no. of cases	Total cases	Sig.	(S) no. of cases	(A) no. of cases	Total cases	Sig.	(A) no. of cases	(B) no. of cases	Total cases	Sig.
Organisation Size	41	65	106	ns	41	29	70	0.008	29	65	94	0.005
Environment Uncertainty	44	63	107	0.003	44	38	82	0.041	38	63	101	0.00
Process Automatiom	38	51	89	0.00	38	16	54	0.00	16	51	67	ns
Product Standardisation	41	51	92	0.079	41	16	57	ns	16	51	67	ns
Budgetary Participation	50	64	114	ns	50	37	87	ns	37	64	101	0.06
Budget Emphasis	51	64	115	ns	51	38	89	ns	38	64	102	ns
Consideration	49	64	113	ns	49	39	88	ns	39	64	103	0.03
Initiation Structure	50	64	114	0.003	50	39	89	ns	39	64	103	0.001
Information Asymmetry	50	64	114	0.00	50	39	89	ns	39	64	103	0.06
Budget Difficulty	48	65	113	0.086	48	38	86	0.006	38	65	103	0.00
Budget Clarity	49	65	114	0.00	49	38	87	ns	38	65	103	0.00
Locus of Control	49	63	112	0.002	49	38	87	ns	38	63	101	0.003
Ability to Detect Slack	50	61	111	0.00	50	37	87	ns	37	61	98	ns
Job Difficulty	51	64	115	0.033	51	37	88	0.07	37	64	101	0.001
Budget Motivation	46	64	110	0.00	46	35	81	ns	35	64	99	0.01
Budgetary Slack	49	64	113	0.07	49	38	87	ns	38	64	102	0.04
Performance	47	60	107	ns	47	37	84	0.001	37	60	97	0.00
Satisfaction	46	62	108	ns	46	36	82	ns	36	62	98	ns
Subordinates Particip.	29	33	62	ns	29	22	51	ns	22	33	55	ns

The second reason for distinguishing between Saudi and Arab samples was reported by Hofstede [1994, p.54]. He mentioned "of course the Arab countries differ among themselves, and impressionistically the Saudis within this region are even more collectivist than some other Arab like Lebanese or Egyptians". Collectivism is a major cultural dimension which was investigated in various research particularly in the area of budgetary participation as mentioned in chapter four. The third reason was that both Saudi and British are locals and the Arab sample are non-locals (see glossary at the end of this thesis). Non-locals work within three cultural dimensions: the first, their own national culture, second, the host culture in which they live for some time, and the third is the culture of an institution they work in. Figure 6.1 illustrates this.

Figure 6.1

The relationship between national, organisational, and host cultures

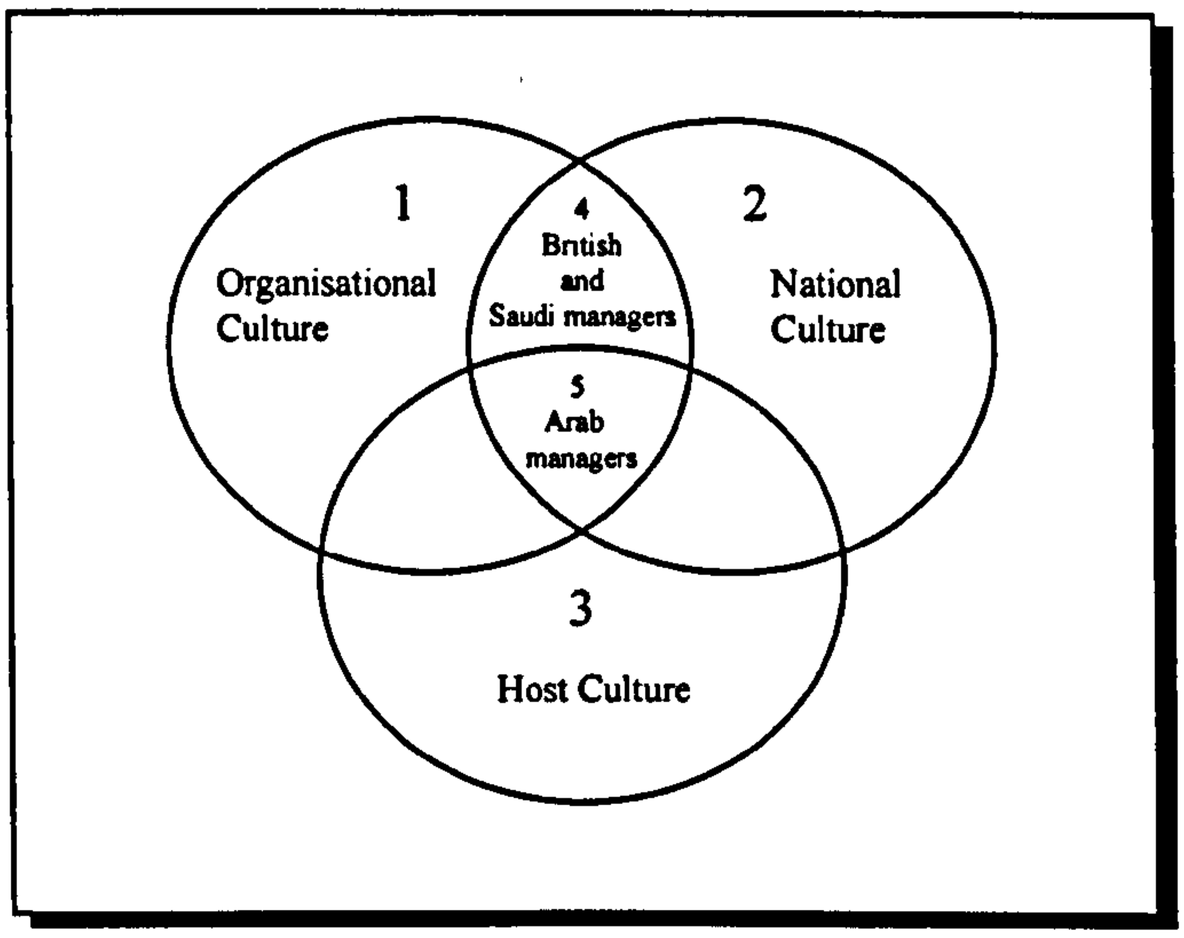


Figure 6.1 shows that both Saudi and British work in area (4) which combines national and organisational cultures. Arab managers work in area (5) which combines between their own national culture, the host culture (Saudi Arabia) and the organisational culture they work in.

The number of valid responses of Saudi managers were fifty one (23%) from 15 companies, and the number of valid responses of Arab managers were forty (18%) from 17 companies. Again, it was noticed that few managers left items in some questions unanswered, therefore, these questions were considered missing.

The range of respondents in each company in the British and Saudi samples ranged from 1-10 based on the co-operation of the functional managers who were contacted and the willingness of their colleagues to spend time on the study. The following table indicates the range of the respondents for British, Saudi and Arab samples.

Table 6.4

Range of respondents in each sample

Range of Response	British			Saudi			Arab		
	No. of comp.	%	No. of respondents	No. of comp.	%	No. of respondents	No. of comp.	%	No. of respondents
1 ~ 3	12	60%	25	10	66.6%	20	14	82.3%	25
4 ~ 6	6	30%	26	3	20.0%	14	2	12.1%	8
7 ~ 10	2	10%	14	2	13.4%	17	1	5.6%	7
	20	100%	65	15	100%	51	17	100%	40

6-1-3 Demographic Factors

These factors indicate the characteristics of the samples in this study, and they are in sequence, job content, age and education level. The demographic characteristics of participating managers for the three samples are given in table 6.5.

Table 6.5

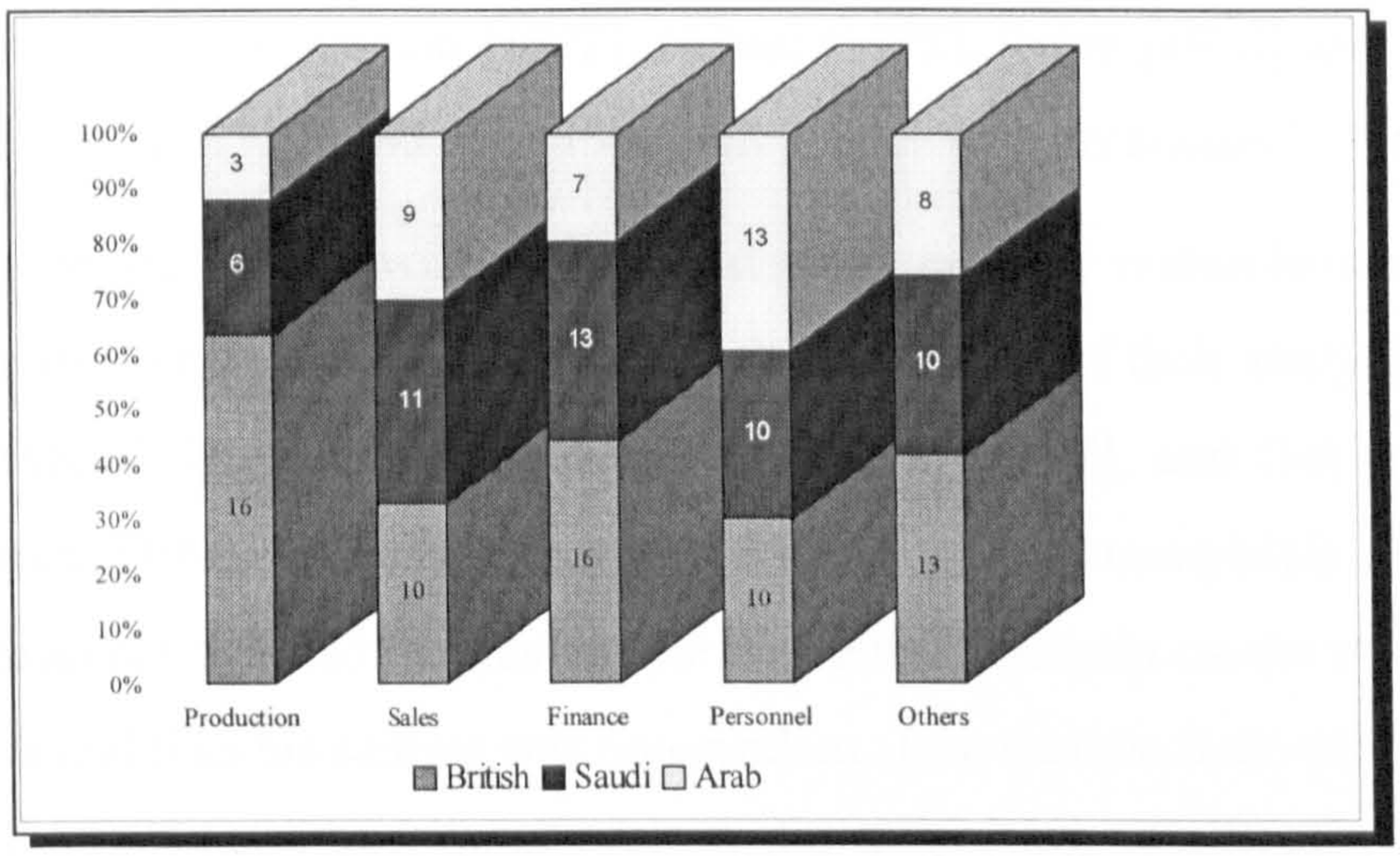
Demographic factors for the three samples

Culture	British	Saudi	Arab
Characteristics	Sample Size		
	65	51	40
Job - Production	16 (24.6%)	6 (11.7%)	3 (7.50%)
Sales & Marketing	10 (15.4%)	11 (21.6%)	9 (22.5%)
Personnel & Training	16 (24 6%)	13 (25.5%)	7 (17.5%)
Finance & Accounting	10 (15.4%)	10 (19.6%)	13 (32.5%)
Others	13 (20.0%)	10 (21.6%)	8 (20.0%)
Age - Under 25	0	12 (23.5%)	5 (12.5%)
25-35	13 (20.0%)	13 (25.5%)	5 (12.5%)
36-45	22 (33.8%)	21 (41.2%)	14 (35.0%)
46-55	25 (38.5%)	5 (9.80%)	16 (40.0%)
Over 55	5 (7.70%)	0	0
Education - High school	16 (24.6%)	6 (11.8%)	3 (7.50%)
B.Sc.	14 (21.5%)	36 (70.6%)	29 (72.5%)
M.Sc.	2 (3.10%)	7 (13.7%)	6 (15.0%)
Ph.D.	1 (1.50%)	2 (3.90%)	1 (1.50%)
Other	27 (41.5%)	0	5 (5.00%)

Table 6.5 shows that all samples consisted of different functional managers. Of course it was not possible to obtain the same number in each group in each culture as it depended on the co-operation of the companies. However, figure 6.2 simplifies the comparison of the number of functional managers in each sample.

Figure 6.2

Comparison of functional managers in the three samples



6-1-4 Size and translation implications

6-1-4-1 Size Implication

This study has some limitations concerning the size of the samples as they were somewhat small and at the same time non-random, this is explained below.

- The questionnaire included one hundred and thirty three items measuring nineteen variables, and this made convincing managers to participate in the study very difficult as the questionnaire was quite long.
- The samples of this research reflected different departments in each company. Consequently, getting approval to reach those managers was quite difficult, as some managers who were contacted said that they

could not insist their managers should participate in work that did not relate to the company.

Much research in this area has suffered from these problems. An examination of sampling procedures in the previous research indicated that some research preferred to focus only on a single firm. Brownell and Dunk [1991, p.695] reported that "*it is not uncommon for empirical work in this area to focus on samples of respondents from single organisations*". Hopwood [1972], Milani [1975], Otley [1978] and Brownell & Hirst [1986], Orpen [1992] and Mia [1988], all conducted their studies in single firms.

In another attempt to avoid the previous problem, other researchers selected their samples non-randomly, and considered that as a limitation of their study (for example Brownell [1982b], Brownell & McInness [1986], Mia [1987], and Gul et al [1995]). Nouri & Parker [1996] mentioned that their sample was not completely random. Ross [1994] for example reported that his sample was selected largely on the basis of ease of access to him and thus his sample was non-random. To avoid the fault which directed to non-random sample Ross used sample reflected different area of activities (e.g. finance, manufacturing, and services). A third group preferred to use university students as a surrogate (see for example Otley et al [1994], Waller [1988], Hirst [1983], Licata, et al [1986] and Chow et al [1988].

The researcher believes that the size of the samples is satisfactory. Table 6.6 summarises other studies in this area. From this table it can be seen that the samples in this research are not out of line with other research.

Table 6.6

Sample sizes of some of previous studies

Study	Research Method	Date of Study	Size of Sample
Govindarajan	Questionnaire	1984	58
Brownell	Questionnaire	1985	66
Waller	Laboratory-Stu.	1988	51
Kenis	Questionnaire	1979	169
DeCoster & Fertakis	Questionnaire	1968	121
Dunk & Lal	Questionnaire	1995	83
Hirst	Quest. Student	1983	111
Collins	Questionnaire	1978	101
Brownell & McIness	Questionnaire	1986	108
Brownell & Merchant	Questionnaire	1990	146
Brownell	Questionnaire	1982	48
Hirst	Questionnaire	1987	44
Brownell & Hirst	Questionnaire	1986	80
Brownell & Dunk	Questionnaire	1991	79
Chow et al	Laboratory Stu.	1988	40
Dunk	Questionnaire	1993	79
Mia	Questionnaire	1989	76
Orpen	Questionnaire	1992	136
Shields & Young	Questionnaire	1993	98
Foran & Decoster	Question.Stu.	1979	81
Milani	Questionnaire	1975	82
Licata et al	Question.Stu.	1986	127
Frucot & Shearon	Questionnaire	1991	83
Mia	Questionnaire	1988	83
Chenhall & Brownell	Questionnaire	1988	36
Otley et al	Laboratory-Stu.	1994	75
Gul 1995	Questionnaire	1995	37
Lal et al	Questionnaire	1996	83

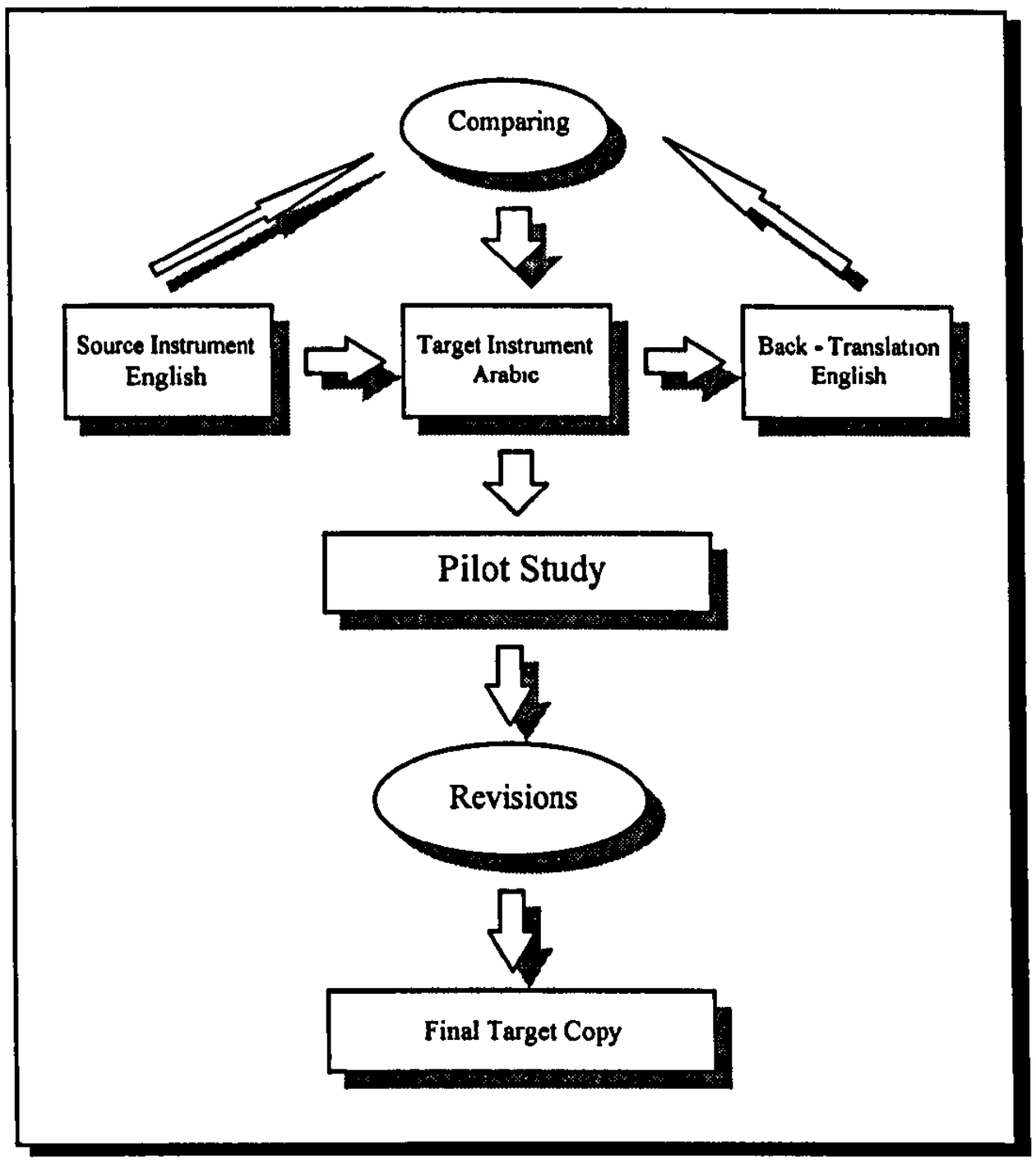
* two cultures

6-1-4-2 Translation Implication

To conduct this research in an other culture (Saudi Arabia) it was necessary to translate the questionnaire items into Arabic.. Any translation has implications as it is difficult to give sentences the same meaning. Many researchers considered this problem. The best solution was the method of back translation as suggested by Brislin [1970]. This method means a researcher has to translate his questionnaire items from the language it was originally developed into the language he wants. Then translate it back to its original language. This method was adopted by some researchers in accounting literature such as Nur [1993]. The translation procedures as used by Nur were also adopted in this study and are illustrated in figure 6.3

Figure 6.3

Back-translation procedures adopted from Nur [1993] with minor change



In the current research, the researcher started translating the questionnaire (source) into Arabic and then, it was reviewed many times. Some questions were translated back also by the researcher into English. So, back-translation method was not applied for all questions, but only to some of them. The questionnaire included some questions asking for items and scales which were not clear in the questionnaire. The researcher conducted a pilot study to find out any problem in understanding the questionnaire items. The pilot study did not include any major inquiries. Based on some suggestions few revisions were made and it was distributed as a final copy. However, the results of the reliability test, as will be described later, give more confidence of the accuracy of the translation procedures.

6-1-5 Research Measurements and Reliability Test

This section introduces the measures used in the study and the results of reliability tests. In accounting and organisational literature there is a number of measures for each

variable used in this study. To decide what measures to use in this research two factors were considered: first, it was decided to select measures which have been used extensively by many researchers as their validity has been established, and each measure will be explained in detail in the following section. Second, the length of a measure. As this research intended to test nineteen variables and some of them consist of a large number of items, it was necessary to short some measures (such as satisfaction, leadership style, job difficulty) to keep the questionnaire in a manageable limit. Where a measure was shortened, the discarded items from the researchers' point of view shared similar meanings to items which were included.

The issue of shortening a measure has been acknowledged by some researchers, Nouri et al [1995] mentioned that survey length constraints necessitate using shorter measures. Their study for example measured social desirable responding (SDR) using 10 items of Crowne & Marlow's [1964] measure which consists originally of 33 items. They accepted this procedure basing on the argument of Robinson & Shaver [1973] who suggested that such strategy "using a smaller number of items from the overall scale of the original authors" is acceptable. Curry et al [1986] also measured job satisfaction using six items selected from the index developed by Brayfield and Rothe [1951] which consists originally of eighteen items.

Of course such shortening will include some bias particularly when results are compared with previous works, therefore, the results for the variables which were shortened will be considered with some caution when they are compared with the previous work.

In social research there are two tests which are usually conducted before proceeding with analysis, namely, reliability and validity. Reliability of the instrument means "the degree to which the same scores can be reproduced when the same objects are measured repeatedly" Tannebaum's (OST) [1957][1].

The test according to the previous definition tries to answer whether the testing instrument and subjects produce consistent answers for similar questions. Validity is

1. Cited in Grove and Savich [1979, p. 524].

another issue which it focuses on the instrument itself rather than respondents. The major concern of validity is whether, the instrument measures what the researcher has in mind. For example, the validity test for the instrument for budgetary participation tries to ensure that the instrument actually measures the level of participation in the budgetary process.

This study focuses only on the first issue, namely, reliability and compared the results with previous studies. Validity is not discussed here because all the measures used in this study were developed by experts in behavioural accounting research and they have been used by other researchers on many occasions.

Before proceeding to introduce the measures used in this study, it is important to mention that there are different statistical techniques which produce reliability results. Cronbach's Alpha (α) is concerned with the internal consistency of a test, based on correlations of items on a single scale (for details see Cronbach [1951]). Another method is "Split-Half reliability", which is based on splitting the scale into two parts and looking at the correlation between the two parts. In this study and consistent with most of the previous research in this area, Cronbach's Alpha was used. This will facilitate comparing the results with previous studies.

In should be noted here that there is no significance level for the reliability analysis. But from the literature it can be concluded that there are three levels as follow. (a) Alpha < 0.5 indicates that reliability for a measure is low, therefore, such results can not be relied upon and caution should be exercised when these results are interpreted. (b) Alpha ≥ 0.5 and < 0.7 indicates that reliability for this measure is in a moderate level. (C) Alpha ≥ 0.7 indicates that reliability for a measure is high. This classification will be used in this study as shown in table 6.7.

Table 6.7

Levels of reliability test used in this study

Levels of Cronbach Alpha	Interpretation
<0.5	Can not be relied upon
0.5 - 6.9	Moderate level
0.7 and over	High level

6-1-5-1 Organisation Size. In the literature there are a number of measures for organisation size, including number of employees, turnover, and capital employed. Some studies (e.g. Ezzamel [1990]) used all. Consistent with Merchant [1981] and Bruns & Waterhouse [1975] this research used only number of employees as a measure for the size of a company for two reasons. First, using other measures with the number of employees would limit the number of companies which were going to be contacted. Second, number of employees are more consistent with this area of research. The main issue of this research is managers' participation and its relation with other behavioural and organisational aspects. Participation is more effective arguably with a large number of employees.

6-1-5-2 Perceived Environment Uncertainty (PEU). In an early discussion (2-2) it was mentioned that most of research, particularly in this area, has focused on perceived environment uncertainty rather than the actual uncertainty. This research has also adopted this approach, as it aims partly to provide a comparison with the previous works. The literature witnessed different instruments for PEU. Ezzamel [1990] and Govindarajan [1984] for example used the instrument of Miles & Snow [1978] which consists of 23 items. They tested environment uncertainty by measuring external factors as they were perceived by departmental managers on a scale ranging from highly predictable to highly unpredictable. Others, for example, Ferris [1977a] focused on the three dimensions of Duncan, which were revised by Sathe [1974]. This instrument measures PEU as how it is perceived by departmental managers in the following three dimensions: (1) the lack of information regarding the environmental factors related with a given decision making situation, (2) the degree of confidence with regard to how

environmental factors would affect success or failure, (3) the difficulty of knowing the outcome of a specific decision.

To keep the research to a manageable size, the 12 items instrument of Duncan [1972] which was revised later by Sathe [1974] (see Ferris [1977a]) was selected *(question number 4 in the questionnaire).* Response categories varied along a five-point scale anchored by never, occasionally, half the time, frequently, and always (items 1, 2, 6, 8, 10 were reverse scored). An overall measure of perceived uncertainty was computed by summing the 12 item-scores. The reliability tests for this measure (see table 6-A-1 in the appendix of this chapter) were (α 0.41, 0.68 and 0.77) for British, Saudi and Arab samples. Saudi and Arab alphas show a considerable level of reliability, but the reliability alpha for British sample reported a low level. Therefore, caution should be exercised when the results of the British study are interpreted.

6-1-5-3 Technology. Consistent with the previous studies, this research measured technology in terms of process automation and product standardisation. Only production managers (if there is one in a company) or financial managers were asked to answer this question as other managers such as marketing may not answer it properly. The answers were generalised for all respondents from the same company. Only few managers have answered this question, so the samples size for this question was low.

6-1-5-3-1 Process Automation. The operational measure of process automation is the three-part instrument developed by Inkson et al [1970]. The first part calls for a rating of the degree of automation of the most automatic piece of production equipment used in the respondent's company *(question number14 in the questionnaire).* The rating is on a six-point scale. Using the same scale and anchor set, the second part elicits a rating of the degree of automation of the bulk of the production equipment in use in the respondent's department. The third part provides a rating of the degree of automation of finished product quality control on a three-point scale. The responses were summed to give the overall measure of process automation. This measure was used by Brownell and Merchant [1990], Dunk and Lal [1995], and Dunk [1996]. Descriptive reliability of this measure was carried out (see table 6.9, p.6.27). Table 6-A-1 in the appendix of this

chapter shows that the reliability analysis of Arab sample was high (α 0.7), whereas it was in a moderate level for both British and Saudi samples (α 0.66, 0.5).

6-1-5-3-2 Product Standardisation. The measure of product standardisation proposed by Thompson [1967] and subsequently used by Merchant [1985] and Dunk and Lal [1995] was used in this study *(question number 14 in the questionnaire).* Products were classified as follow: (1) custom made products, (2) products differing but having common components, (3) products basically alike with only minor differences and (4) completely standardised products (see Brownell and Merchant [1990]). It is obvious that number 1 is the least standardised and number 4 is the most standardised. As this measure is a single item measure, no reliability test can be made.

6-1-5-4 Budgetary Participation. The accounting literature witnessed various measures for budgetary participation (i.e. Hofstede [1968], Milani [1975], Aranya [1990], Kenis [1979]). Hofstede's instrument is a single item with eight points which places a stress on who makes the proposal, rather than who takes the final decision. Milani's instrument consists of six questions on a seven point scale to determine a manager's position with regard to participation. Milani's participation questionnaire measures both the amount of influence an individual has on the budget and his/her involvement in the process of establishing the budget. Aranya's instrument consist of six items which trays to assess the degree to which budget goals are imposed (see Nur [1993].

Aranya's [1990] instrument was overlooked as its validity has not been established yet. The instrument of Milani [1975] was chosen for this study because, unlike the instrument of Hofstede [1968], it is a multi-item instrument which permits a reliability assessment *(question number 1 in the questionnaire).* This instrument has been used extensively to study the level of budgetary participation in budgeting research and reported a high reliability (e.g. Harrison [1992] α 0.89, Mia [1988] α 0.89, Nouri and Parker [1996] α 0.84, Chenhall and Brownell [1988] α 0.71). The Cronbach α for this measure are 0.89, 0.89 and 0.85 for British, Saudi and Arab samples respectively (see table 6-A-1 at the appendix to this chapter).

It is important to mention here that it was also hypothesised that the managers will exercise a high degree of budgetary participation with their subordinates if they perceived themselves as having a high degree of budgetary participation with their boss. For this reason it was important to use another instrument to measure the degree of budgetary participation which managers allow their subordinates. The instrument of Kenis [1979] with some modifications was used in this study (*question number two in the questionnaire*). Reliability test for this measure recorded α 0.68 for the whole sample and 0.69, 0.79, 0.56 for British, Saudi and Arab samples (item number 2 was reverse scored). The reliability level of the Arab sample with respect to the instrument of Kenis was lower than the other two samples, but it was considered as a moderate level.

6-1-5-5 Style of Evaluation. The instrument of Hopwood [1972] was employed in this study to measure budget emphasis. The original measure of Hopwood consists of eight items (e.g. meeting budget, concern with cost, co-operation with colleagues). The measure requires respondents to rank the three factors which they perceive as being most important in their own evaluation. Then, the following four criteria define the style of evaluation (1) budget constrained style, when *meeting budget* appears among the top three items (2) Budget profit, when both *meeting budget* and *concern with the cost* appear among the top three items. (3) profit conscious, when *concern with the cost* alone appears among the top three items. (4) non-accounting style, when neither *meeting the budget* nor *concern with the cost* appear among the top three items.

The accounting literature has witnessed an extensive use for this measure either identically or with some modification. Some research has added either one or two items to the original eight, while others has used scales instead of ranking method. Brownell [1982b] for example noticed that his respondents failed to rank these items properly, so in Brownell [1985], this measure was used with a Likert scale for the all eight items. He summed two items *meeting the budget* and *concern with the cost* as they were highly correlated. Many researchers after that (e.g. Dunk [1989]) used the Likert method which was suggested by Brownell [1985]).

The concept of budget emphasis is somewhat in conflict. Some interpreted budget emphasis as RAPM "reliance on accounting performance measures" and used the summation of the two accounting criteria such as Dunk [1989] and Brownell [1986]. In another study, Dunk [1993] considered only meeting the budget as an indicator of budget emphasis. This research adopts the concept of Dunk [1993] as it used only the item of *meeting budget* to reflect superiors' emphasis to meet budget when they evaluate their subordinates' performance. The researcher believes that the term of budget emphasis reflects a budget-constrained style which is meeting the budget.

The questionnaire included the eight items with Likert scales anchored by "1" very important to "5" no important *(question number 7 in the questionnaire).* Because of the nature of these scales reverse scoring was used for these items, so allowing comparability with the other measures in the study. Although meeting the budget was only used to measure budget emphasis, the other seven items were also included in the questionnaire because this way avoids any bias when the respondents answer this question, as they will distribute their attention through eight different styles rather than one item. So, their answers would be more accurate.

6-1-5-6 Leadership Style. Leadership style was measured using the instrument of Ohio State University "Leadership Behaviour Description Questionnaire", Form XII (Stogdill [1963]). This instrument uses a set of items to describe the frequency with which subordinates (the respondents) observe different types of leadership behaviour on the part of their superior, along the two dimensions of consideration and initiating structure. Each item is scaled from "5" always to "1" never acts like that. In order to avoid the questionnaire becoming too long, the twenty items were reduced to sixteen. The items which were discarded shared from the researcher' point of view similar meanings to some of the sixteen items included *(question number 5 in the questionnaire. Items 1, 3, 5, 7, 9, 11, 13, 15 for initiation, and items 2, 4, 6, 8, 10, 12, 14, 16 for consideration).*

Each dimension was computed by summing the responses for the 8 items which represent each dimension (items 8, 14, 16 were reverse scored). Therefore, the

theoretical range for each dimension ranged from 8-40. Reliability test for consideration was 0.84, 0.79, 0.81, for British, Saudi and Arab samples respectively. For initiation structure reliability test recorded α 0.85, 0.65, 0.73 for British, Saudi and Arab samples (see table 6-A-1). These results revealed a considerable levels of reliability for the two dimensions of leadership.

6-1-5-7 Information Asymmetry. Since there was no measure of information asymmetry designed for use in field studies, one was developed by Dunk [1993]. The six items in the instrument are based on the definition of information asymmetry as well as on suggestions in the literature. The anchors were arranged on a seven-point Likert scale so that a response of (1) to any item would indicate that the superior had much more information, whereas a response of (7) would indicate that the subordinate had much more information than the superior. Dunk [1993, 1995] focused on managers who reported more than 24 and excluded the others. He used this approach based on the definition of information asymmetry which he followed and which refers to those circumstances in which subordinates have more information than their superiors.

From the research's point of view information asymmetry refers to both sides, either whether subordinates have more information than their superiors or vice versa. Information asymmetry means that there is a gap in work-related information between a subordinate and his/her superiors, regardless of who this gap in favours. The results of using either may includes bias as it focus only on one side. However, in order to check this point further, the instrument of Dunk [1993] was used as follows: first, in the moderating approach, the researcher used the whole respondents in each sample (British, Saudi, and Arab) to test the effect of information asymmetry. Then he split the answers to (a) for managers who scored more than 24, and (b) for managers who scored less than 24 and ran the analysis again to compare the results with those obtained from the whole respondents. Second, in the intervening approach the whole respondents were used because in the intervening model the researcher used only the respondent who answered all variables included in the four sub-models[1]. If the researcher focused only

1. See the introduction of chapter eight for more details.

on respondents who scored more than 24 this would lead to an unacceptably low number of respondents.

Dunk [1993] reported α .88 for the reliability of this measure, and Dunk [1995a] reported reliability α= 0.79, therefore, this study employed this instrument *(question number 6 in the questionnaire).* The results of reliability test for each sample was (0.85, 0.83 and 0.92) for British, Saudi, and Arab respectively.

6-1-5-8 Budget Goal Difficulty and Clarity. The instruments of Steers [1976] with some modifications were used to measure both goals difficulty and clarity *(question number 8 in the questionnaire).* The instrument of budget difficulty consists of four items (items 1 to 4), whereas that of budget clarity consists of three items (items 5 to 7). Both were used with a seven point scale (items 1, 6 were reverse scored). These two instruments were also used by Kenis [1979]. Reliability tests for those measures (see table 6-A-1) recorded α 0.87, 0.55 and 0.38 for budget difficulty, and α 0.82, 0.79 and 0.46 for budget clarity for British, Saudi and Arab respectively. It is clear that the reliability tests of both budget difficulty and clarity for the Arab were lower than the other two samples. Therefore, caution should be exercised when the results of the Arab sample are interpreted.

6-1-5-9 Locus of Control. The literature witnessed various measures of locus of control. For example Rotter [1966], La Rosa, and Levenson's [1973] measures. Rotter's measure consist of 23 question pairs, plus 6 filler questions. Internal statements are paired with external statements. One point is given for each external statement selected. Although Rotter's internal-external (I-E) locus of control has been widely used in the literature, it has been criticised extensively with regard to its presumed unidimensionality, its inherent social desirability response bias (see Lefcourt [1991, p.418].

The literature has also witnessed other measures of locus of control. One of which is that which was developed by La Rosa and which was used by Frucot and Shearon

[1991]. Kren [1992b], for example, used a short measure of locus of control which was developed by Johnson & McGill [1988] which consists of 15 items in a Likert format.

Another measure of locus of control in the literature is that of Levenson [1973]. The instrument consists of three components each consisting of eight items along three dimensions as follows: internal (I) which measures the extent to which people believe that they have control over their own lives. Powerful others (P) concern the belief that other persons control the events in one's life. The third is Chance (C) which measures the degree to which a person believes that chance affects his/her experiences and outcomes. The dimension of chance is similar to external as both perceive that reinforcements are not contingent upon one's own action, but rather upon other factors such as fate or luck (chance).

The measure of Levenson [1973] *(question number 11 in the questionnaire)* was selected to be employed in this study for many reasons. First, the instrument of Rotter [1966] was criticised extensively, as mentioned before, in addition, it requires 15 minutes to be completed (see Lefcourt [1991], p.420). This length of questionnaire would lower the response rate. Second, the instrument of La Rosa was developed in a doctoral thesis and it seemed to be in a different language. Third, the instrument of Johnson & McGill [1988] and which was used by Kren [1992b] was excluded as it has not been used extensively and thus its validity has not been established yet.

With reference to the instrument of Levenson [1973], the researcher used only two dimensions which are internal and external (chance) and ignored the third one which is powerful others. This procedure is consistent with the previous work in this area which only used these two dimensions *(items 1 to 7 external, and items 8 to 14 internal).* The instrument was used with some minor changes in wording to be suitable for this study (e.g. company was used instead of hospital). Fourteen items were used in this study with a 7-point Likert scale anchored by strongly agree to strongly disagree.

In the moderating and intervening approaches the fourteen items were used altogether. But each of the two dimensions was also considered independently in the moderating approach in order to provide further support to the results. When each

dimension was used independently, answers for strongly agree were scored high "seven" and strongly disagree were scored low "one". But when the fourteen items were used altogether as one measure, answers of the external dimension were reverse scored, as strongly agree scored low "one", and strongly disagree scored high "seven" in order to make the two dimensions comparable.

Reliability test for this instrument was 0.68, 0.65, and 0.83 for British, Saudi and Arab respectively. These results revealed a considerable amount of reliability which was necessary to proceed using this measure.

6-1-5-10 Ability of Superiors to Detect Slack. This variable was measured using Onsi's three items *(question number 12 in the questionnaire, items 7 to 9).* This measure has been used in previous research such as Lal et al [1996], α 0.76). Reliability test indicated in table 6-A-1 shows that this measure recorded α 0.75, 0.9, and 0.9 for British, Saudi and Arab samples respectively.

6-1-5-11 Budget Motivation. The extent to which budgetary participation affects the managers' extrinsic and intrinsic motivation were measured by using twelve items which were developed by Lawler and Suttle [1973]. Twelve items were used with a seven point Likert scales anchored by (1) extremely desirable to (7) extremely undesirable *(question number 3 in the questionnaire, items 1 to 6 are extrinsic, and 7 to 12 are intrinsic).* Because of the nature of these scales reverse scoring was used for these items, so allowing comparability with the other measures in the study. Lawler & Suttle's instrument has been shown to be reliable, and has been widely used in the expectancy model developed by Ferris [1977b], Brownell and McIness [1986] and Mia [1987]. It was difficult to test motivation in this study in the context of the contingency theory as it requires asking respondents long questions. Brownell & McIness [1986], for example, asked their respondents to answer these questions twice; first, what these items mean to them as a result of goal accomplishment. Second, as a result of goal directed behaviour. So, this research asked respondents what are these extrinsic and intrinsic items mean to them as a results of meeting the budget. Reliability for this measure recorded α 0.89, 0.91 and 0.82 for British, Saudi and Arab respectively.

6-1-5-12 Budgetary Slack. Managers' propensity to create budgetary slack was measured by using six items developed by Onsi [1973] *(question number 12 in the questionnaire, items 1 to 6).* This measure has been used extensively in much behavioural accounting research (some has used only four items instead of six). Six items were used instead of four because the scores of the four items and the six one were highly correlated. Figure 6.4 shows the correlations between the four and six items for each sample.

Figure 6.4

The relationship between the four and six items of budgetary slack

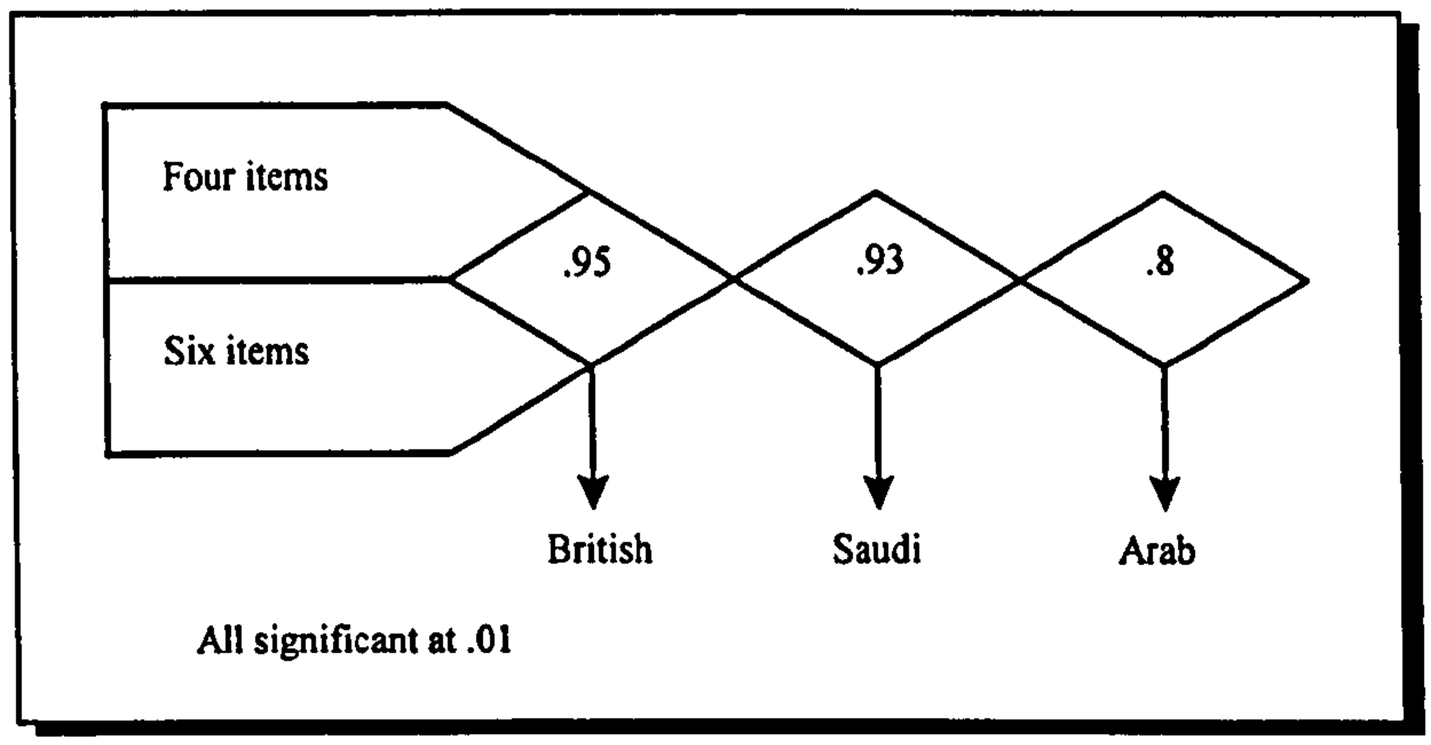


Figure 6.4 shows that the four and six items were highly correlated. Therefore it was decided to use the summation of the six items. Reliability test for this measure recorded α 0.8, 0.66 and 0.35 for British, Saudi and Arab. The reliability of the Arab sample was lower than the British and Saudi samples, therefore, caution should be exercised when its results are interpreted.

6-1-5-13 Performance. Within this area of research three measures have been widely used. All three measures are subjective as it is difficult in wide-ranging sample to use objective measures. Many studies (e.g. Govindarajan [1986], Merchant [1984]) argued that this approach is more appropriate for such kind of samples. An example of this subjective measures is that of Mahoney et al [1963]. This measure is a self-rating version which consists of eight performance dimensions with one overall effectiveness

dimension. The instrument calls for a rating from 1 (far below average performance) to 7 (far above average performance) on each dimension, as well as for the global, or overall rating. The eight sub-dimensions of performance are planning, investigating, co-ordinating, evaluating, supervising, staffing, negotiating and representing.

Another example of performance measures in this area is that of Gupta & Govindarajan [1984]. This is also a self-report version. A third example for performance was a self-rating of overall performance which was used by Merchant [1981, 1984] & Brownell & Merchant [1991]. It is a single item measure which asks respondents to rate their department performance on a scale from one (well below average) to five (Well above average).

The instrument of Mahoney [1963] was chosen for this study *(question number 9 in the questionnaire).* It has been extensively used in this area of research (e.g. Brownell & McIness [1986], Kren [1992a], Dunk [1993]). The measures of both Gupta & Govindarajan [1984] and the single item one which was used by Merchant [1981] and his followers were excluded as the first has not been used extensively, whereas the second consist of a single item and thus it is difficult to assess its reliability. As mentioned earlier the instrument of Mahoney consists of eight items with an overall one. Mahoney et al [1963] concluded that about 55% of the variance in the overall rating is explained by the eight dimensions, while a further 45% of the variance could be attributed to functional characteristics.

To assess the variance of the overall item in each sample in this study with that explained by Mahoney [1963, 1965], the procedure which was used in the previous studies was applied here by regressing the eight items on the global one and their results as indicated in table 6.8.

Table 6.8

Percentage of variance of the eight dimensions on the global item

	R^2
British sample	63 %
Saudi sample	68 %
Arab sample	69 %
Brownell 1982a	60 %
Brownell 1983	60 %
Brownell & McIness 1986	78 %
Govindarajan 1986	79 %
Dunk 1990	47 %
Abernethy & Brownell 1997	52 %
Subramanian & Ashkanasy 1997	50 %
Choo & Tan 1997	59 %

As shown in the table, in the current study 0.63 (British), 0.68 (Saudi), 0.69 (Arab) of the variance was explained by the eight dimensions. So, the global dimension does reflect the overall performance. It indicates that the percentages of this study for all three samples were similar to those reported in previous studies. An additional check for this measure, and following the previous research in this area, correlations were computed for each of the eight specific performance dimensions the global rating. Table 6.9 indicates the results.

Table 6.9

Correlation between global performance and each specific dimension

	Dimension							
	1	2	3	4	5	6	7	8
British Sample n= 60	0.617	0.407	0.352	0.264	0.46	0.54	0.224	0.343
Saudi Sample n= 47	0.508	0.447	0.644	0.664	0.755	0.517	0.188	0.367
Arab Sample n= 37	0.733	0.627	0.456	0.681	0.621	0.647	0.254	0.38
Heneman 1974	0.55	0.41	0.39	0.33	0.44	0.36	0.4	0.41
Brownell 1982a n= 40	0.57	0.58	0.28	0.51	0.42	0.27	0.34	0.4
Govindarajan 1986 n= 77	0.61	0.64	0.47	0.52	0.6	0.68	0.48	0.37

0.01	0.05

Where; (1) planning, (2) investigating, (3) co-ordinating, (4) evaluating, (5) supervising, (6) staffing, (7) negotiating and (8) representing. From table 6.8 we find with exception of item number 7 "negotiating" all the other seven items were correlated with the global one. This confirmed that the global item does reflect the overall performance. It worth attracting the attention to the fact that this study used a 7 point scale whereas some of other studies used a 9 point scale. But this is not important in the previous analysis as long as we are not comparing the mean differences.

However, in this study, and unlike previous research, the overall scores of the nine dimensions were used as an indicator of managers' performance. The researcher believes that this way is more accurate than using one item as it avoids any bias which may exist as a result of using one item even if the variance explained by the global item was similar to the previous studies. It is also consistent with the other measures employed in this study which used the summation of all items included in each measure. From table 6-A-1 in the appendix of this chapter we can see that the results of using the summation of the nine items resulted a high reliability for all three sample in addition to the overall reliability of the three sample which recorded 0.86.

6-1-5-14 Satisfaction. The literature has witnessed various measures of job satisfaction. (e.g. Brayfield & Rothe [1951], Kahn et al [1964], Minnesota [1967]). Minnesota Satisfaction Questionnaire (Weiss et al. [1967]) had the priority to be used in this study as it has been used extensively in this area of research. This measure has two versions, the first consists of 100 item, whereas the second consists of 20-item. Consistent with the previous works in this area which frequently focused on the short version, this research has also used it *(question number 10 in the questionnaire).* The MSQ questionnaire calls for a response on a five-point scale, anchored by (1) very dissatisfied to (5) very satisfied.

In order to keep the questionnaire of a manageable length, the twenty items were reduced to only sixteen of the original questionnaire. The items which were discarded shared from the researcher' point of view similar meanings to some of the sixteen items included. This measure was used with a minor changes in wording to three items 1, 4,

and 12 (e.g. superiors was used instead of boss, and being busy all the time instead of being able to keep busy all the time). Reliability test indicated in table 6-A-1 shows that this measure recorded α 0.85, 0.82, and 0.89 for British, Saudi and Arab samples respectively.

6-1-5-15 Job Difficulty. It was measured using four items developed by Van de Ven & Delbecq [1974] (question number 13 in the questionnaire). The original measure consists of seven items, but in order to keep the research in a manageable limit only four items were used. Managers rated their perceived level of job difficulty on a seven point scale anchored at both ends (items 1, 2, 4 were reverse scored). A manager's overall scores for job difficulty was the sum of his or her scores for the four items. Cronbach alpha (table 6-A-1) recorded for this measure 0.39, 0.36, and 0.73 for British, Saudi, and Arab samples.

In spite of the fact that it is not acceptable to compare the results of this alpha with other studies which used seven items. It worth drawing attention that many researchers who used this measure have noticed a low reliability. Lau et al [1997, p.182] reported 0.47 for this measure and they mentioned that caution should be exercised in interpreting their results. Brownell and Dunk [1991] reported 0.57 for this measure and they considered it as a moderated level. Mia [1988] reported 0.55 and mentioned that further research is needed for this measure.

According to the previous discussion it is not possible to say whether or not the low reliability reported in this study due to using of four items instead of seven for two reasons: first, the Arab sample recorded a high score for that (0.73). Second, the previous research failed to report high alphas for the full measure. However, consistent with Lau et al [1997] caution should be exercised when interpreting the results of this study for the low reliability, also when comparing the results of this study with others who used the full measure.

6-1-5-16 Summary. This section has discussed the measures which the researcher selected to test the variables involved in the proposed model. The reliability was

checked individually for each culture. Reliability test recorded a high and acceptable alpha for the majority, but as the same time very few variables in some samples recorded a low reliability, so, caution should be exercised when interpreting their results. However, table 6-A-1 in the appendix of this chapter shows descriptive analysis which has been conducted for the measures in each sample.

6-2 Statistical Design

This study adopted different statistical techniques to test both moderating and intervening approaches. Correlation, multiple regression, and path analysis were chosen as the most suitable techniques. The following section explains the theoretical framework for path analysis.

6-2-1 Theoretical Framework of Path Analysis

Path analysis is an application of regression and correlation. It is based on regression analysis, but it can provide a more useful graphic picture of relationships between several variables than is possible through other means. Path analysis assumes that the values on one variable are caused by the values of another. This requirement is not unique to path analysis, of course, but path analysis does provide a unique way of displaying explanatory results for interpretation.

The method of path analysis was developed by Wright [1934] as a method for studying the direct and indirect effects of variables, where some variables are viewed as causes of other variables, which are viewed as effects. It is very important to mention here that path analysis is not a method for discovering causes, but a method applied to the causal model formulated by the researcher on the basis of knowledge and theoretical considerations. As Wright [ibid., p.193] stated,

> "the method of path coefficients is not intended to accomplish the impossible task of deducing causal relations from the values of the correlation coefficients. It is intended to combine the quantitative information given by correlations with such qualitative information as may be at hand on causal relations to give a quantitative interpretation."

In fact, one of the features of the method is that in order to apply it, the researcher is required to make explicit the theoretical framework within which he operates.

Babbie [1990, p.312] confirmed this when he reported:

> "although path analysis is an excellent way of handling complex causal chains and networks of variables, one must realise that path analysis itself does not tell the causal order of the variables, nor was the path diagram generated by computer. The researcher decided the structure of relationships among the variables and used computer analysis merely to calculate the pass coefficients that apply to the structure decided on"

Path analysis has been used in much accounting and decision science research (for example Shields & Young [1993], Kren [1992a] , Brownell & McIness [1986], Mia [1987], and Flynn et al [1995]). The usefulness of path analysis is that its results provide information on the relative importance of the independent variables in terms of their effect on the dependent variables. In other words the feature of path analysis is that the researcher can construct the model and test the effect of the independent variable on the dependent one either directly or indirectly through other intervening variables, and compare the contribution of each of the indirect variables in comparison.

From the introductory remarks it is evident that causal thinking plays an important role in the application of path analysis. In order to facilitate the understanding of causal relationships, it is important to distinguish between *exogenous* and *endogenous* variables.

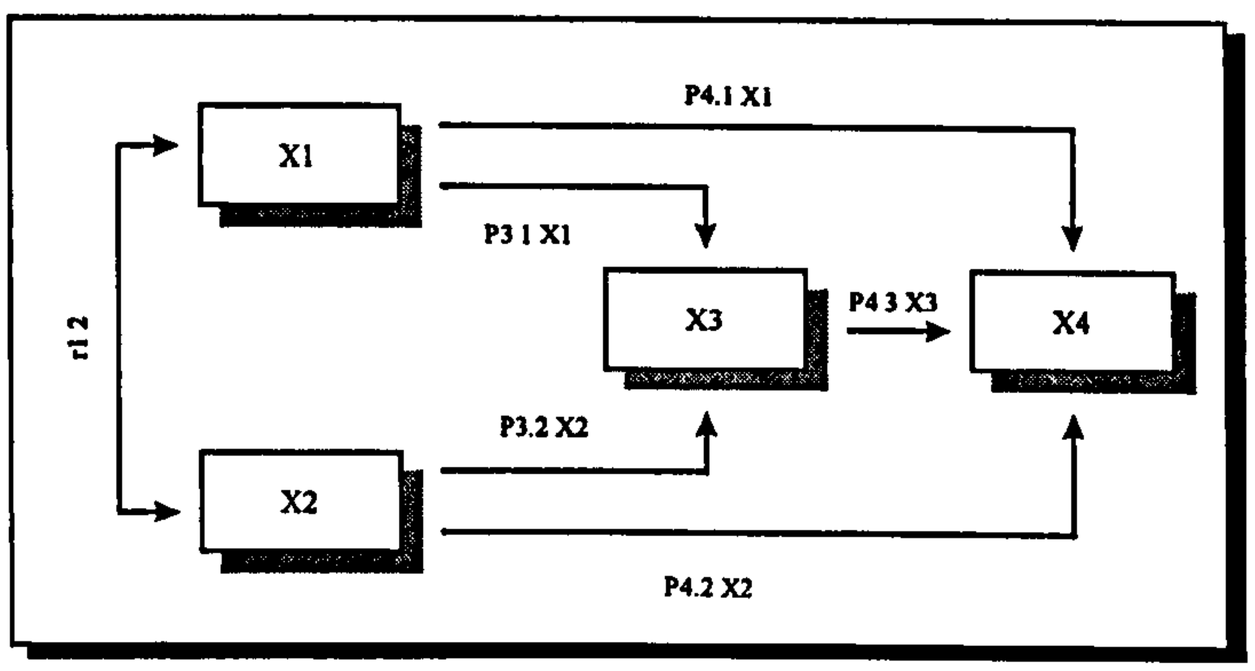
6-2-1-1 Exogenous and Endogenous Variables

In causal models, a distinction is made between *exogenous* and *endogenous* variables. An *exogenous* variable is a variable whose variability is assumed to be determined by causes outside the causal model. Consequently, the determination of an exogenous variable is not under consideration in the model. An *endogenous* variable, on the other, is one whose variation is explained by exogenous or

endogenous variables in the system. Figure 6.5 illustrates both exogenous and endogenous variables.

Figure 6.5

The distinction between exogenous and endogenous variables



As illustrated in figure 6.5, variables X_1 & X_2 are exogenous. The line between them which has arrowheads at both ends indicates the correlation coefficient, and this means that the relation between them is unanalysed in the system, and the researcher does not look for such relationship.

Variables X_3 & X_4 are endogenous. The relationship between exogenous and endogenous variables is depicted by a line with one direction . Symbols which are beside these lines indicate path coefficients, and show the direct effect of a variable taken as cause of a variable taken as an effect. The conventional symbol for denoting path coefficient is p_{ij}, where *i* refers to the effect and *j* refers to the cause.

An endogenous variable treated as dependent in one set of variables may also be conceived of as an independent variable in relation to other variables. Variable X_3, for example, is taken as dependent on variables X_1 and X_2, and as one of the independent variables in relation to variable X_4.

6-2-1-2 Assumptions of Path Analysis

The effective use of path analysis is based on a number of assumptions which are mentioned in most books and articles dealing with path analysis[1]. The most important of these assumptions are described below.

1. Path-analytic models assume that the relationships among the variables are linear additive and causal. Consequently, curvilinear, multiplicative, or interactive relations are excluded.
2. All error terms (residuals) are assumed to be uncorrelated with each other.
3. There is a one-way causal flow in the system. That is, reciprocal causation between variables is ruled out. For example in figure 6.2, if X_2 is taken as a cause of X_3, then the possibility of X_3 being a cause of X_2 is ruled out.
4. The variables are assumed to be measured on an interval scale[2].

6-2-1-3 Path (Standardised) Coefficients and Regression Coefficients

In path analysis all variables are expressed in a standard form (Z for example). It is important to mention here that there is a major difference between regression and path analysis, in ordinary regression analysis, a dependent variable is regressed on all the exploratory variables under consideration. On the other hand, in path analysis more than one regression analysis will usually be undertaken and that is why the regression coefficient is different from path coefficient. Path coefficients are known as "**Beta**" weight and they are computed automatically by professional statistical package such as SPSS and SAS.

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1. See for example Wonnacott and Wonnacott [1981] and Kerlinger & Pedhazur [1973].
2. For a discussion of the implication of weakening these assumption, see Land [1969], Boyle [1969], Duncan [1966]. Also Kerlinger and Pedhazur [1973] P.309, reported that different researchers discussed and illustrated the application of path analysis to ordinal measures.

6-2-1-4 Direct, Indirect and Total Effects (Contributions)

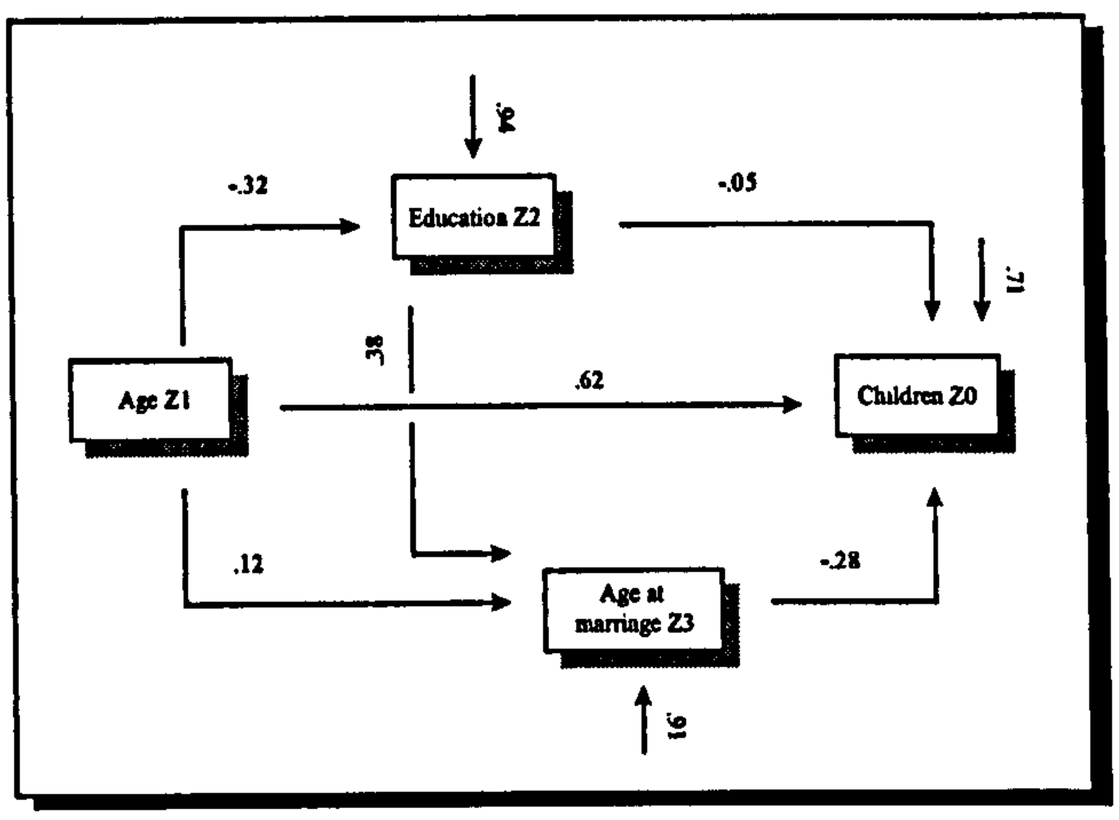
Indirect effects are those parts of a variable's total effect which are transmitted or mediated by variables specified as intervening between the cause and effect of interest in a model. They tell us how much of a given effect occurs because the manipulation of the antecedent variable of interest leads to change in other variables which in turn changes the consequent variable.

The direct effect of one variable on another is simply that part of its total effect which is not transmitted via intervening variables. It is the effect which remains when intervening variables have been held constant.

Total effect is the summation of all paths (direct and indirect) that run between the first variable (s) in the model and the last one. The following example adopted from Wonnacott and Wonnacott [1981] illustrates the method used to compare direct and indirect relationships.

Figure 6.6

Direct, indirect and total effects adopted from Wonnacott and Wonnacott



The total effect of Z_1 and Z_2 on Z_0 is shown on table 6.8. As indicated in this table, the effect of Z_1 on Z_0 was tested through three different routes. The direct effect was the stronger effect on Z_0 and the three other routes had a weak effect on Z_0, but in general it increased the total effect of Z_1 on Z_0.

Table 6.10

Analysis of direct, indirect and total effect of Wonnacott and Wonnacott' example

Variable	Type of Effect	Effect
Z_2	Direct	-.05
	Indirect	(.38)(-.28) = -.10
	Total	-.15
Z_1	Direct	.62
	Indirect	
	Via Z3	(.12)(-.28) = -.03
	Via Z2	(-.32)(-.05) = + .02
	Via Z2, Z3	(-.32)(.38)(-.28) = +.03
Total Effect		.64

The previous example shows the direct and indirect effects of age on children. As can be seen, the indirect effect has three routes. First, through education. Second through age at marriage. Third, through both education and age at marriage.

Summary and Conclusion

This chapter introduced the two approaches adopted in the current study. Accounting literature suggests that there are two approaches that can be used to understand the effect of budget involvement on both managers' performance and satisfaction, and they are moderating and intervening approaches. The difference between these two approaches was introduced. After going through studies which considered the mentioned relationships and variables which were found to affect them, the current research adopted an integrative model which was analysed using moderating and intervening approaches.

To test the integrative model, measures which were used extensively in previous studies in this area and it had proved their validity as measures of the variables required were chosen. United Kingdom and Saudi Arabia were chosen as sites to investigate the proposed model. Initial samples from both countries were used as a pilot studies. Contact was made with managers with companies in each country. The final sample consisted of 156 questionnaires represents three cultures; 65 British culture, 51 for Saudi culture, and 40 for Arab culture.

This chapter also introduced the statistical technique which was used as the most appropriate for this study and which was has been used extensively in previous research. The next chapter introduces the analysis for the first approach which was applied in UK.

Appendix of Chapter Six

Table 6-A-1

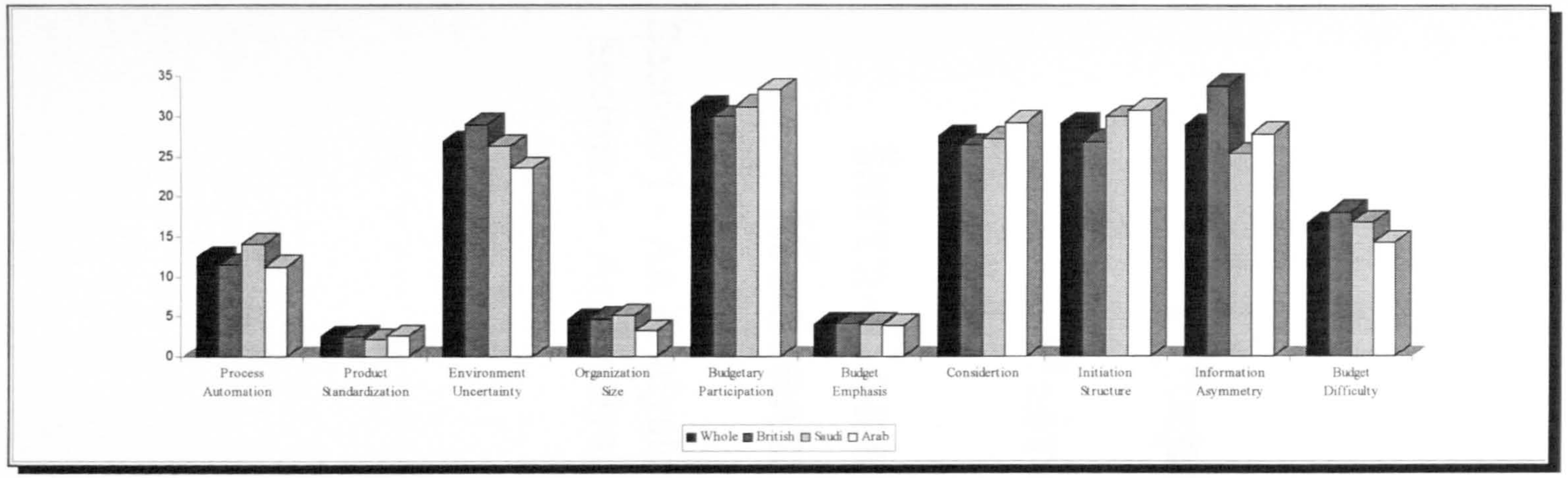
Descriptive analysis for measures used in this study for the three cultures

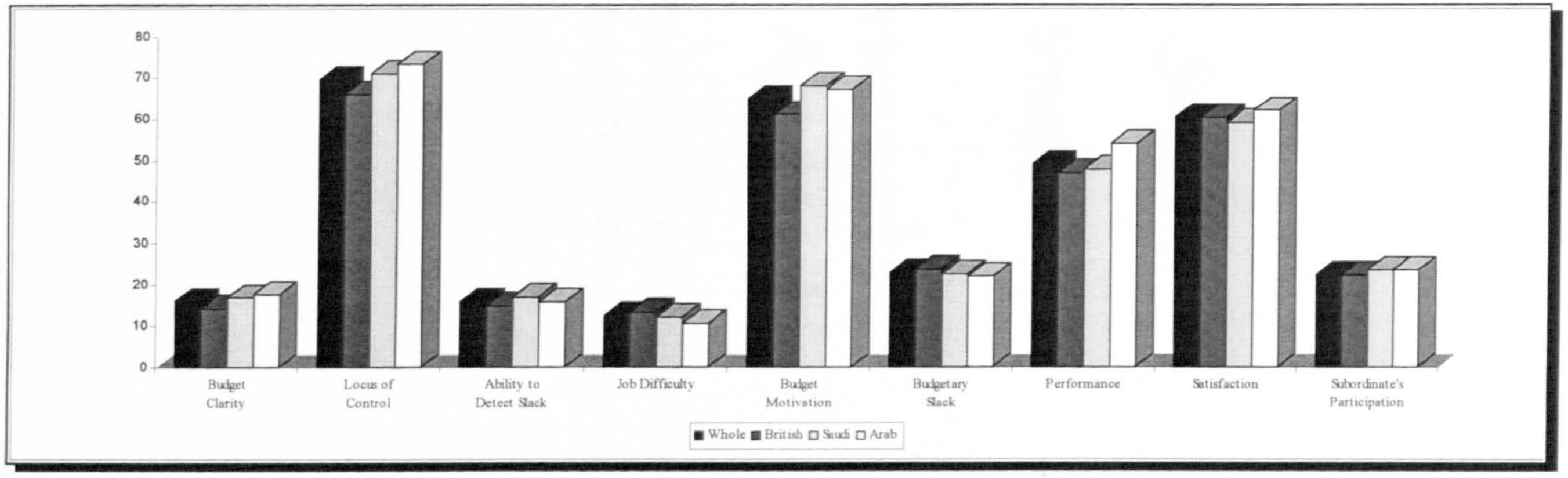
	Number of Items	Number of Cases			Means			Standard Dev.			Actual Range			Reliability Analysis		
		British	Saudi	Arab	British	Saudi	Arab	British	Saudi	Arab	British	Saudi	Arab	British	Saudi	Arab
Process Automation	3	51	38	16	11.5	14.1	11.2	3	1.9	3.6	3 ~ 15	7 ~ 15	5 ~ 17	0.66	0.5	0.7
Product Standardisation	1	51	41	16	2.5	2.1	2.6	0.9	1.1	1	1 ~ 4	1 ~ 4	1 ~ 4	na	na	na
Environment Uncertainty	12	63	44	38	29	26.3	23.5	3.4	5.5	6.3	21 ~ 39	16 ~ 37	12 ~ 35	0.41	0.68	0.77
Organisation Size	1	65	41	29	4.8	5.2	3.2	2.5	3.1	2.9	1 ~ 8	1 ~ 8	1 ~ 8	na	na	na
Budgetary participation	6	64	50	37	30	31.3	33.3	8.3	7	7.3	10 ~ 42	10 ~ 42	18 ~ 42	0.89	0.89	0.85
Budget Emphasis	1	64	51	38	4.06	4.01	3.9	1	1	1	1 ~ 5	1 ~ 5	1 ~ 5	na	na	na
Consideration	8	64	49	39	26.5	27.3	29.3	5.1	5.8	5.8	8 ~ 35	14 ~ 39	14 ~ 40	0.84	0.79	0.81
Initiation Structure	8	64	50	39	27	30	30.8	5.4	4.1	4.8	8 ~ 37	19 ~ 40	19 ~ 40	0.85	0.65	0.73
Information Asymmetry	6	64	50	39	33.9	25.4	27.9	9.2	8.3	10.4	16 ~ 77	7 ~ 42	6 ~ 42	0.85	0.83	0.92
Budget Difficulty	4	65	48	38	18.1	16.8	14.3	3.5	3.8	3.9	8 ~ 26	4 ~ 25	5 ~ 21	0.87	0.55	0.38
Budget Clarity	3	65	49	38	14.2	16.8	17.6	3.5	3.3	2.9	6 ~ 21	9 ~ 21	12 ~ 21	0.82	0.79	0.46
Locus Control	14	63	49	38	65.9	71.1	73.3	6.6	10	11.7	41 ~ 83	43 ~ 89	49 ~ 98	0.68	0.65	0.83
Ability to Detect Slack	3	61	50	37	14.8	16.9	15.8	2.7	3.1	3.6	8 ~ 20	9 ~ 21	7 ~ 21	0.75	0.9	0.9
Job Difficulty	4	64	51	37	13.5	12.1	10.8	3.5	3	4.2	7 ~ 23	4 ~ 19	4 ~ 19	0.39	0.36	0.73
Budget Motivation	12	64	46	35	61.1	68.1	67.2	10.4	13.6	11.5	36 ~ 84	20 ~ 84	43 ~ 84	0.89	0.91	0.82
Budgetary Slack	6	64	49	38	23.9	22.5	22	4.8	6.1	4.9	9 ~ 39	8 ~ 40	13 ~ 34	0.8	0.66	0.35
Performance	9	60	47	37	46.9	47.9	54.1	5.3	9.5	7.4	36 ~ 63	15 ~ 63	35 ~ 63	0.75	0.86	0.87
Satisfaction	16	62	46	36	60.3	59.1	62	7.8	8.7	9.8	38 ~ 79	35 ~ 76	41 ~ 80	0.85	0.82	0.89
Subordinate Involvement	5	33	29	22	22.2	23.4	23.6	4.4	6.2	5.4	13 ~ 32	6 ~ 35	9 ~ 32	0.69	0.79	0.56

Moderate Level | Low Level

Figure 6-A-1

Means of the variables used in this study





Chapter Seven

British Study

Inter-Correlation and the Moderating Approach

Section 1 - An Analysis of the Inter-correlation Matrix
Section 2 - An Analysis of the Moderating Approach

7- Section 1

7-1 An analysis of the Inter-Correlation Matrix
{ The British Sample }

This chapter will test the moderating model on the British sample. There are two statistical techniques will be used for this purpose, correlation and multiple regression analysis, each analysis will test a set of hypotheses. Therefore, this chapter was divided into two sections; the first analyses the inter-correlation between some variables used in the study. The second analyses the moderating role as hypothesised in chapter five. The results of this chapter will not be compared either with the previous work or with the other two samples used in this study. In order to avoid repetition, this comparison and explanations of the results will take place in chapter eleven.

It worth attracting attention to the fact that as long as the size of the sample limits its results, therefore, the researcher used four terms which indicate the nature of the results. These four terms are: (a) strongly supported when the results are statistically significant and the direction of the effect is consistent with the research hypotheses. (b) weakly supported when the results are statistically insignificant and the direction of the effect is consistent with the research hypotheses. (C) strongly rejected when the results are statistically significant and the direction of the effect is opposite to the research hypothesis. (D) when the results are statistically insignificant and the direction of the effect is opposite to the research hypothesis. However, table 8-A-5 in the appendix of chapter eight summarises these results according to the above terms.

7-1-1 The Contingency Variables

7-1-1-1 Organisation Size. This research hypothesised that managers in big organisations perceive high degree of participation in budgetary process than those in the small ones. From table 7-A-1 at the end of this chapter we can see that organisation size and budgetary participation were positively related (n=64). This result provides a strong support to (H-I.1).

7-1-1-2 Environment Uncertainty. The result of the inter-correlation matrix was opposite to the research hypothesis (H-I.2). Table 7-A-1 indicates a negative and significant relationship between budgetary participation and environment uncertainty (n= 62). This counter-intuitive result may be explained by two possible reasons which are explained in chapter eleven.

7-1-1-3 Process Automation. The inter-correlation matrix indicates that process automation had a positive effect on budgetary participation though statistically insignificant (n=50). This result provides a weak support to H-I.3 which proposed a positive relationship between these two variables. On the other hand process automation had positive and significant relationships with both budget difficulty and budget emphasis. A possible interpretation for that is budget goals are more difficult in highly automated organisations and hence, top management relies on budgets as a mean of controlling middle management activities. From the inter-correlation matrix we can find that budget emphasis and budget difficulty are positively and significantly related. This may support the previous interpretation.

7-1-1-4 Product Standardisation. Based on the previous studies (Brownell & Merchant [1990]), the researcher proposed that organisations which their product are highly standardised, managers perceive low degree of budgetary participation (see p.2.14). The result shown in the inter-correlation matrix indicates that product standardisation had a negative relationship with budgetary participation though it was at a statistically insignificant level. This result provided weak support to H-I.4.

7-1-2 Budgetary Participation, Performance, and Satisfaction

Table 7-A-1 shows that budgetary participation had a positive and significant relationship with both managers performance and satisfaction. These results were consistent with H-II.1a&b. They were also consistent with the literature review which proposes that when functional managers are involved in decision making, those managers perform better and be more satisfied than managers who are not involved.

Performance had significant relationships with some micro-level variables, such as superiors' ability to detect slack. This result may of value for top management to find various ways to control slack, as this has a better results on their managers' performance.

It was also hypothesised (H-II.2, p.3.8) that managers allow their subordinates to participate in the budgetary process if they perceived themselves as having a high level of participation in the budgetary process. Table 7-A-1 shows that this proposition was weakly rejected. The inter-correlation matrix shows a negative relationship between these two variables though statistically insignificant.

7-1-3 Budgetary participation and the Moderating Variables

The results shown in table 7-A-1 indicates that budgetary participation had insignificant relationships with both motivation and slack. From this table we can find that the direction of the effect on budget motivation was negative (n= 63). This result was opposite with (H-II.6). With reference to the effect of budgetary participation on budgetary slack, the result showed a negative relationship but it was at a statistically insignificant level (n= 63). So H-II.9 was weakly supported.

On the other hand budgetary participation had a positive and significant relationship with budget emphasis (n= 63). This result indicates that when managers are highly involved in their budgets, they are evaluated on the basis of budget-constrained style. Budgetary participation had also a positive and significant relationship with budget clarity (n= 64). This conclusion is logical as when managers participate in budgetary process, budget' goals are much clear to them.

7-1-4 Budget Motivation and Budgetary Slack

Budget motivation had a positive and significant relationship with managers' performance (n= 59). Budgetary slack had a negative and significant relationship with budget clarity (n= 64), and this relationship means that when managers perceive their goals clear, their propensity to create slack decrease. This result highlights the

importance of budgetary participation as it has a positive effect on budget goal' clarity which in turn decrease budgetary slack.

7-1-5 Other relationships

This research hypothesised (H-I.6, p.2.19) that budget emphasis has a positive relationship with superiors' leadership style. When superiors have a leadership style characterised as high initiation structure, they would use budget emphasis as a rigid style of evaluation. The result as shown in the inter-correlation matrix indicates that initiation structure has a negative relationship with budget emphasis though it was statistically insignificant (n= 63). This result provided weak rejection to H-I.6.

Hypothesis (H-I.10, p.2.28) stated that organisation size has a positive relationship with information asymmetry. The result shown in table 7-A-1 provides a weak support to this proposition (statistically insignificant).

7- Section 2

7-2 An Analysis of the Moderating Approach for the British Sample

This section will test the moderating role of some variables in the way hypothesised in chapter five. The moderating approach has been used extensively in this area (e.g. Brownell 1982b, Brownell & Hirst [1986], and Dunk [1993]). The results are indicated in figure 7-A-1 in the appendix of this chapter. The following discussion explains the nature of the results in detail.

7-2-1 Budget Motivation

To test this moderating role, the researcher used the regression equation which has been used extensively in the accounting literature (i.e. Nouri [1996], Mia [1988]). The formulation of this equations are as follows:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \xi \qquad (7.1)$$

$$Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \xi \qquad (7.2)$$

Where:

Y_1 = Performance

Y_2 = Satisfaction

X_1 = Budgetary participation

X_2 = Budget Motivation

The result indicated in table A-D-1 in appendix D at the end of the thesis shows that budget motivation had a positive and significant moderating role between budgetary participation and managers' performance, and this result supported hypothesis H-II.7. To check the nature of this relationship, further analysis was carried out using Schoonhoven's method [1981]. The following steps were undertaken: (a) taking the partial derivative of equation (7.1) over X_1, (b) determining

the value of X_2 (the inflection point) (c) plotting the joint effect of the main and interaction terms. Steps (a) and (b) above produced the following equations:

$$d/dX_1 = \beta_1+\beta_3 X_2 \qquad (7.3)$$

$$X_2 = -\beta_1/\beta_4 \qquad (7.4)$$

The results of the previous steps indicated that X_2= 44.05. Figure 7.1 indicates the nature of the relationship in the previous test.

Figure 7.1

Moderating role of budget motivation

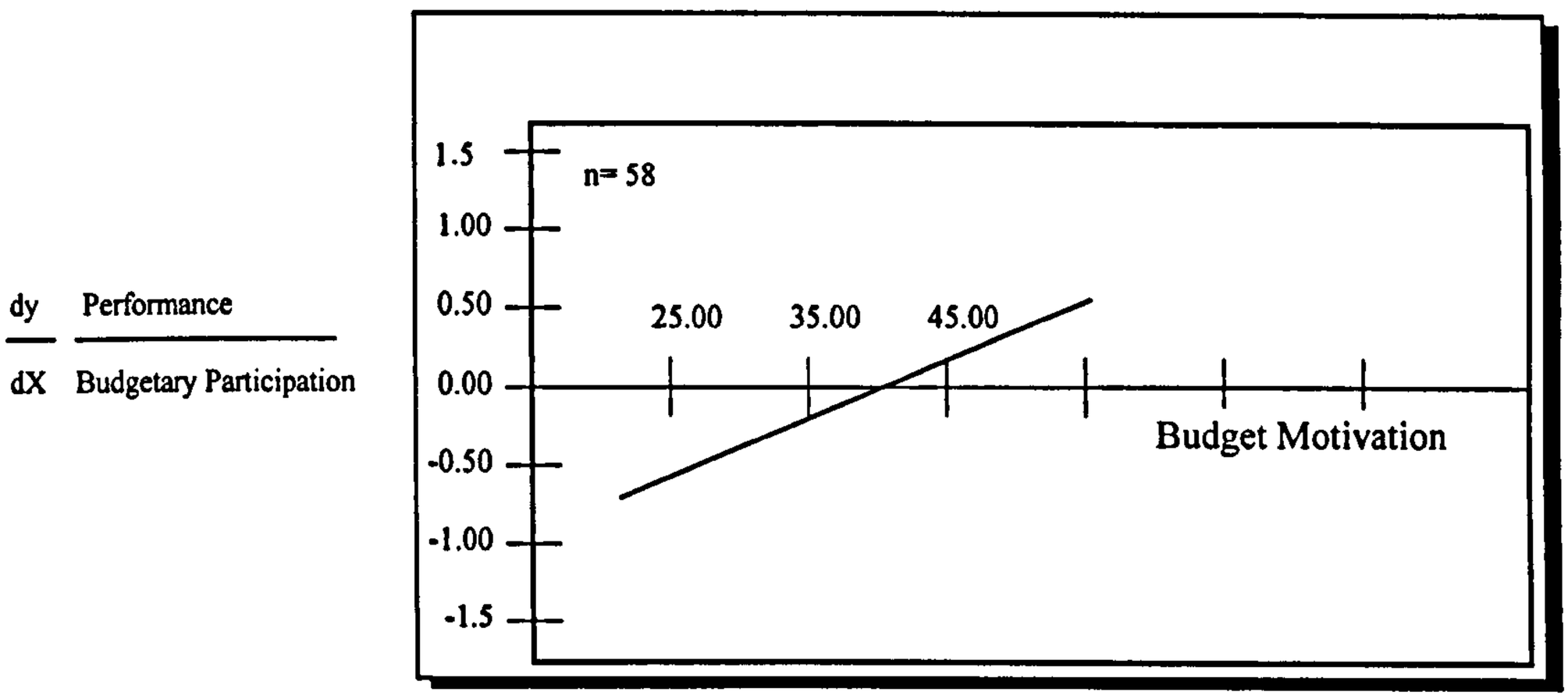


Figure 7.1 shows that when managers' motivation to achieve their department' budget increases (scores above 44.05), the relationship between budgetary participation and performance also increases. This result was consistent with some studies (i.e. Mia [1988]) as will be discussed in chapter eleven.

To test the moderating role of budget motivation between budgetary participation and satisfaction, equation 7.2 was run, and table A-D-2 in appendix D at the end of this thesis indicates the result. The result indicated in this table shows that budget motivation had a negative moderating role between budgetary participation and satisfaction though statistically insignificant. This result means when managers

are highly motivated to achieve budgets, high budgetary participation decrease their satisfaction, and so this result is contradictory to H-II.8.

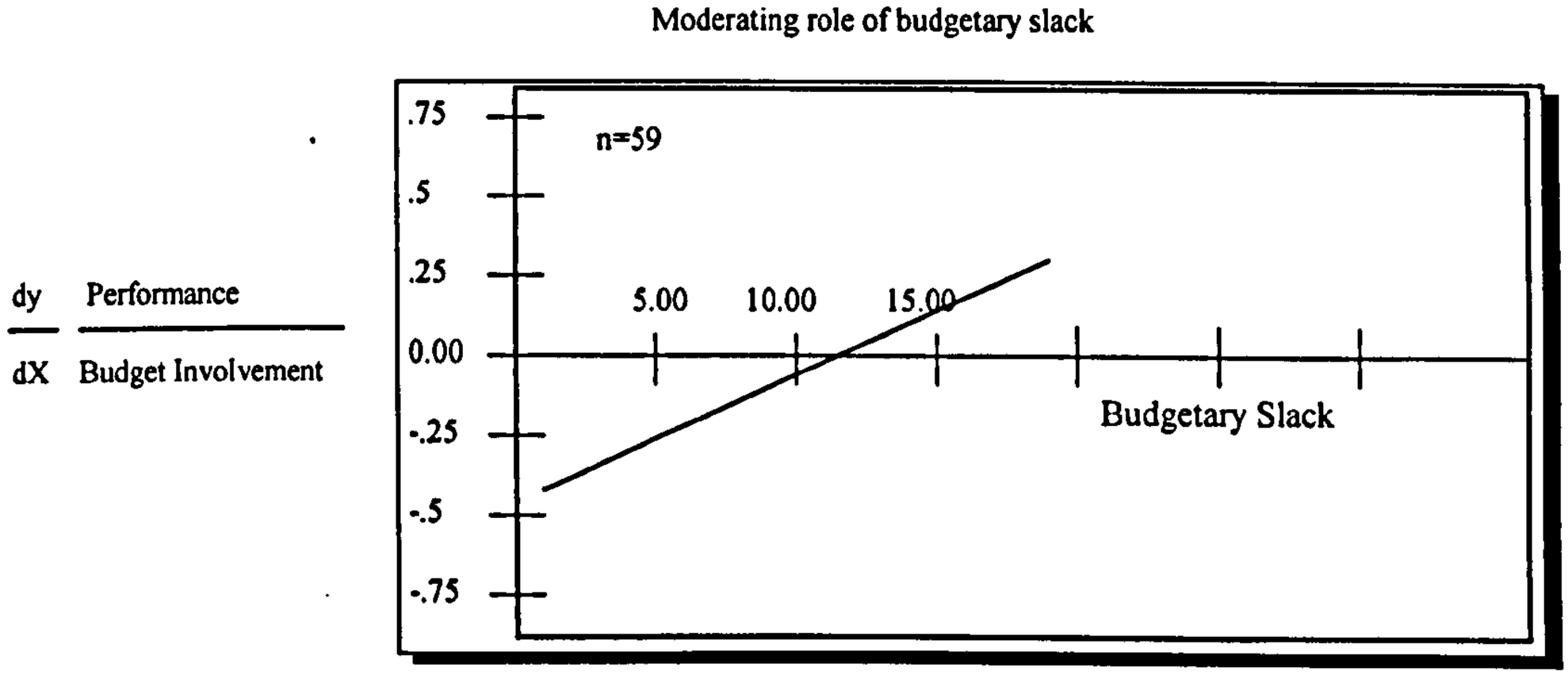
7-2-2 Budgetary Slack

To test the moderating role of budgetary slack on the relationship between budgetary participation and both performance and satisfaction, equations similar to those used in budget motivation (7.1 & 7.2) were used substituting X_2 with budgetary slack instead of budget motivation. The results of running those equations are indicated in tables A-D-3 & 4.

The results shown in table A-D-3 indicate that budgetary slack had a significant moderating role between budgetary participation and performance (n= 59). To check the nature of this role equations 7.3 & 7.4 were employed, and this resulted X_2 = 12.29 as plotted in figure 7.2.

Figure 7.2

Moderating role of budgetary slack



The result shown in figure 7.2 illustrates the nature of the relationship. It is clear that when budgetary slack increase (scores above 12.29) high budgetary participation increases managers performance. This result was opposite to H-II.11 rejecting it. It was expected that high slack would decrease this relationship. To confirm understanding the nature of this results, further analysis was conducted after dichotomising both budgetary participation and budgetary slack to low and high

levels at the mid point of their scales and computing the mean of performance in each category. The results of this method are shown in table 7.1.

Table 7.1

Means of performance under different low and high levels of both budgetary participation and budgetary slack

Low budgetary participation - High budgetary slack	40.33
Low budgetary participation - Low budgetary slack	44.87
High budgetary participation - Low budgetary slack	47.57
High budgetary participation - Low budgetary slack	48.50

Plotting the results of table 7.1 are indicated in the following figure.

Figure 7.3

Two-way interaction between budgetary participation and budgetary slack affecting performance

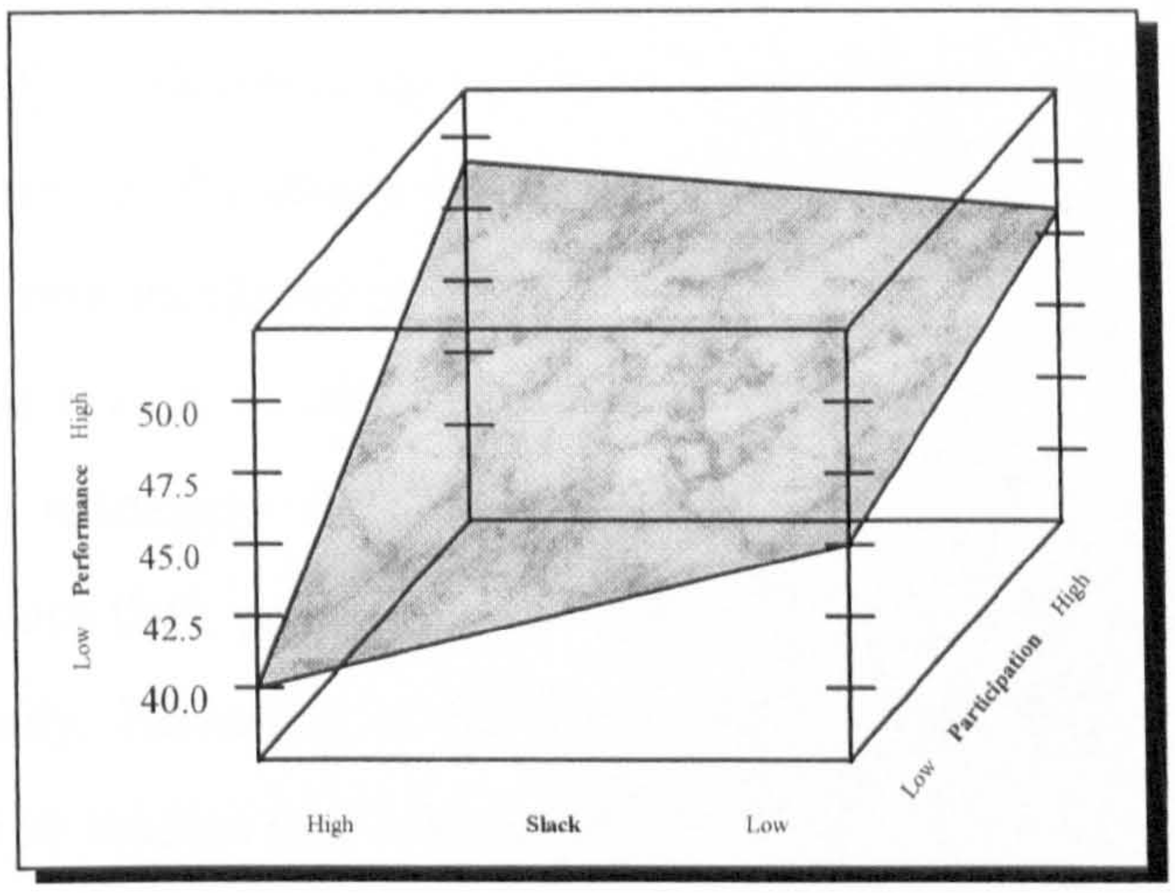


Figure 7.3 confirms the previous result and indicates that, managers who have high propensity to create slack, high budgetary participation increases their performance. A possible explanation for this result is those managers put biased figures in their budget and hence they keep their performance within their limits. In other word, they perform well because the figures of their departments' budget already biased and participation helped them to do so.

The effect of budgetary slack between budgetary participation and satisfaction was tested and the result is shown in table A-D-4. The result indicates that budgetary slack had insignificant moderating role (n= 60), and the direction of the effect was opposite to H-II.12. This result means that high budgetary participation increased satisfaction for those managers who had low propensity to create slack.

7-2-3 Budget Emphasis

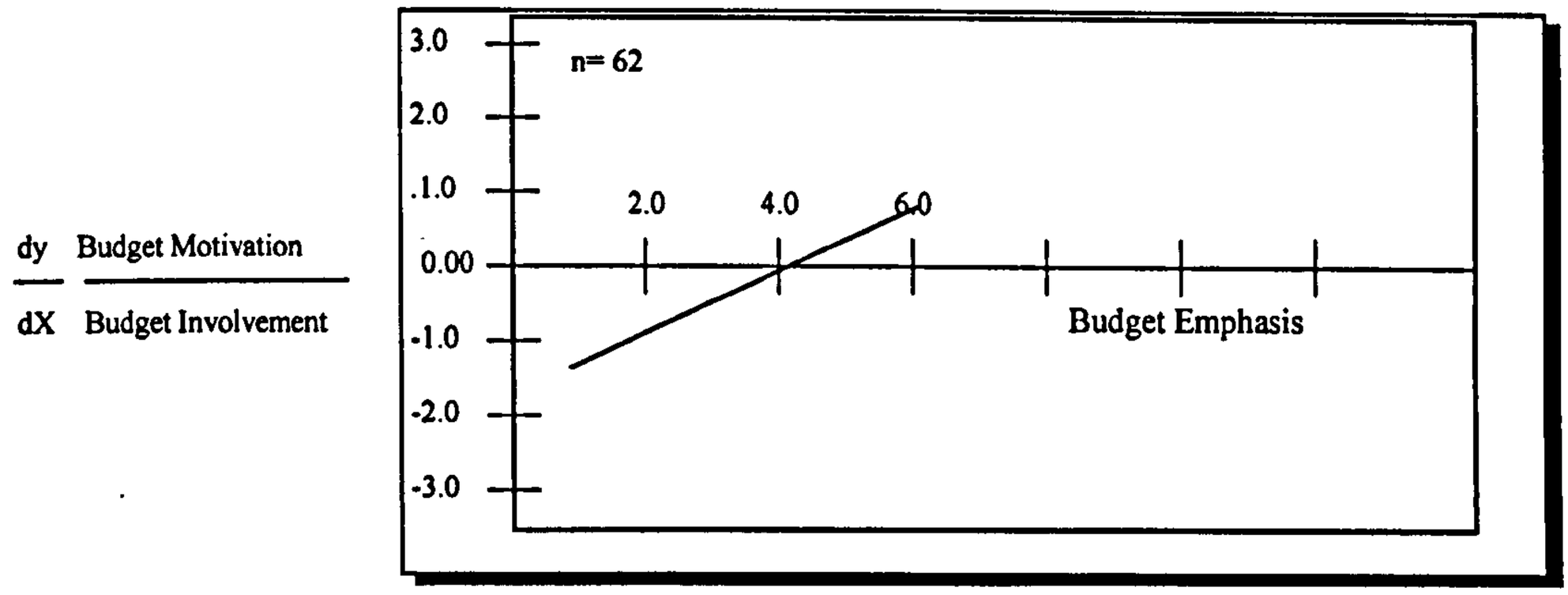
This research hypothesised that budget emphasis has a positive contingent role between budgetary participation and performance (H-I.7a), satisfaction (H-I.7b), and motivation (H-I.8). To test the effect of budget emphasis on these three relationships, three equations, each of them similar to equation (7.1) were used. The results of running those equations are illustrated in tables A-D-5, 6, and 7.

The results indicated in these tables show that there was insignificant moderating role for budget emphasis affecting both performance (n= 59) and satisfaction (n= 60). With reference to H-I.7a, it worth attracting the attention to the fact that the direction of the effect was opposite to the hypothesis. This result means that high participation increased managers' performance when budget emphasis was low. The literature review in this area is in conflict, some studies (see section 2-5) argued that when managers are evaluated on the basis of budget emphasis, high participation increase their performance. Whereas others reported results which were similar to this study. However, in order to avoid repetition more explanations and analysis about these studies will take place in chapter eleven. On the other hand the results of H-I.7b were also opposite to the expected direction though it was at a statistically insignificant level.

With respect to H-I.8 which hypothesised that budget emphasis has a positive moderating role between budgetary participation and motivation, the result shown in table A-D-7 indicates that budget emphasis had a significant moderating role (n= 62). To check the nature of this moderating role, equations similar to 7.3 & 7.4 were used and this resulted X_2 =4.15 as shown in figure 7.4.

Figure 7.4

Moderating role of budget emphasis



The result illustrated in figure 7.4 supports H-I.8 as it shows that budgetary participation increased managers' motivation to achieve budget when budget emphasis was high.

7-2-4 Leadership Style

Hypothesis (H-I.5, p.2.18) stated that leadership style has a moderating role between budgetary participation and managers' motivation to achieve budget. Consideration and initiation structure were examined separately. Same procedures used in the previous analysis were applied in this section using equations which were similar to 7.1 & 7.2. The results of these procedures are shown in tables A-D-8 for consideration (n= 62) and A-D-9 for initiation structure (n= 62). These tables show that neither styles had a significant moderating role between budgetary participation and budget motivation. It worth attracting the attention to the fact that the result shown in table A-D-9 indicates that the direction of the effect was consistent with H-I.5. This result provided weak support to the research hypothesis.

7-2-5 Information Asymmetry

This research hypothesised that information asymmetry has a moderating role between budgetary participation and managers' motivation to achieve budget (H-I.9a) and budgetary slack (H-I.9b). In other word, when managers are in positions of

having more work-related information than their superiors, high participation in budgetary process increases their motivation to achieve budget and also their propensity to create slack.

The measure of information asymmetry includes asking respondents who have more information, whether managers or their superiors. Chapter six indicated that the measure consisted of six items on a seven point scale, so the theoretical range for the answers is from 6 to 42. Scores below 23 mean that managers are in positions of having less information than superiors, and scores above 25, mean that managers are in positions of having more information than their superiors. Managers who reported 24 mean that they have the same information as their superiors. First, the effect of information asymmetry on both budget motivation and budgetary slack was tested using the whole measure, then answers were split into three groups. Group (1) for managers who have less information than their superiors, group (2) for managers who have more than their superiors, and group (3) for managers who have the same as their superiors. This resulted five cases under group 1, fifty five cases under group 2, and two cases under group 3. The effect of information asymmetry on budgetary slack and budget motivation was tested using groups 1 & 2. Group number 3 were excluded as there were only two cases and thus invalid to be analysed.

Equations similar to 7.1 & 7.2 were employed in this section to test H-I.9a&b, and the results of running those equations are shown from tables A-D-10 to A-D-15. Table A-D-10 (n= 62) indicates that information asymmetry had a positive moderating role between budgetary participation and managers' motivation to achieve budgets (statistically insignificant). This result provided weak support to H-I.9a.

From table A-D-11 we can see that information asymmetry had a positive and significant interaction with budgetary participation affecting managers' propensity to create slack ($p<.05$, n= 62). To check the nature of this interaction, equations similar to 7.4 & 7.5 were employed and this resulted $X_2= 34.6$ as illustrated in the figure 7.5.

Figure 7.5

Moderating role of information asymmetry on budgetary slack

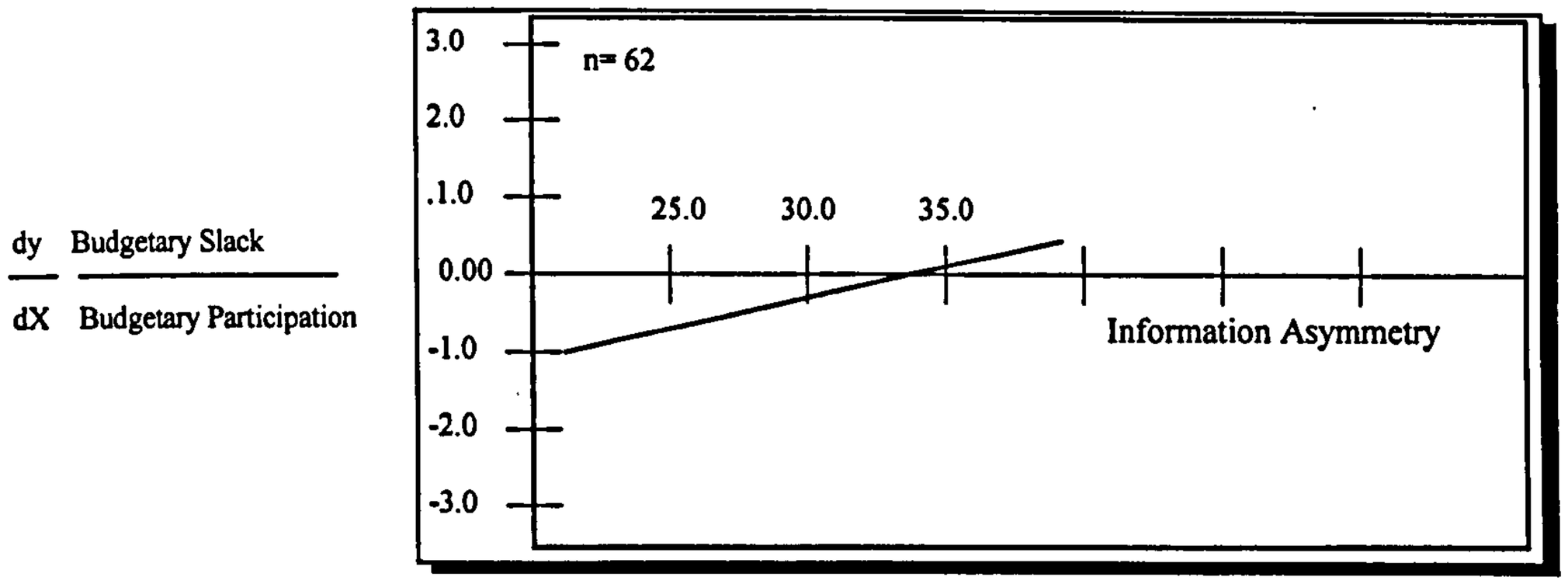
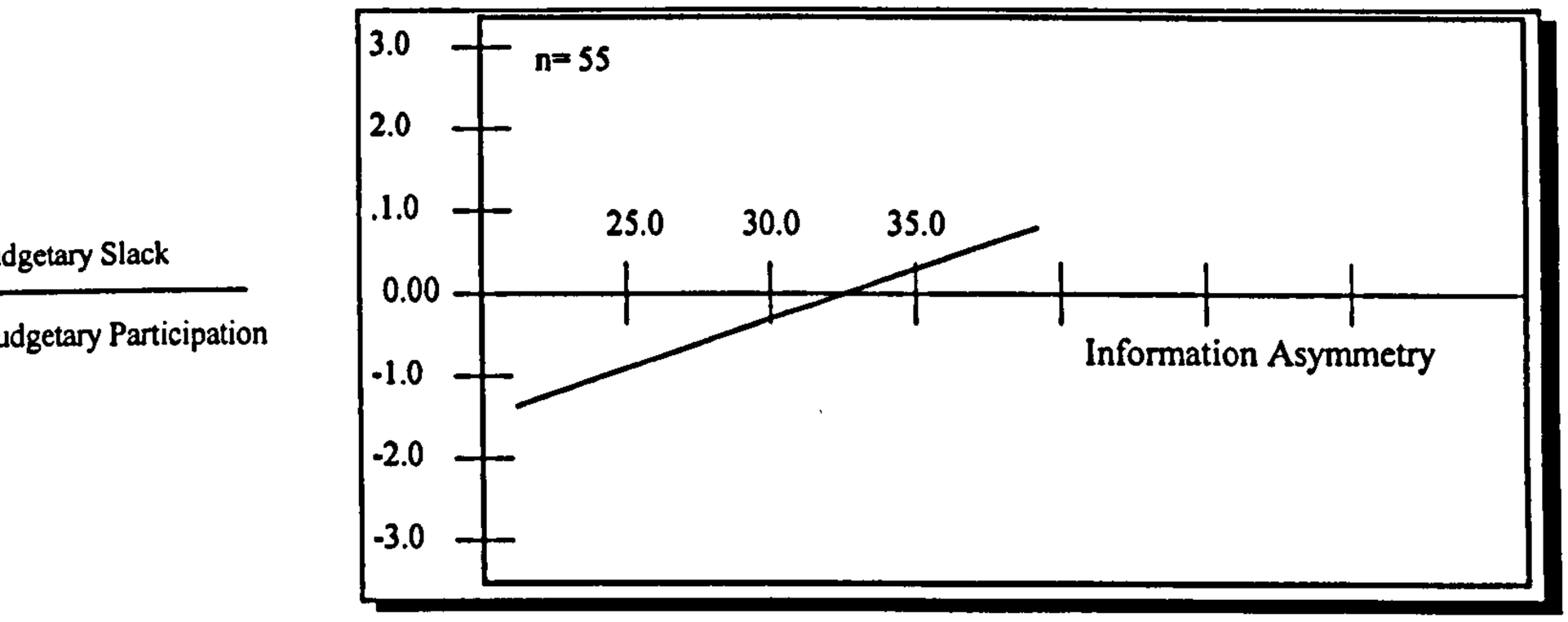


Figure 7.5 indicates that when managers hold more information than their superiors, high budgetary participation increases their propensity to create slack. This result is consistent with H-I.9b. To confirm the previous result, same procedures were employed for the cases "1 & 2". Tables A-D-12 to A-D-15 shows the results.

The result shown in table A-D-15 was consistent with the previous analysis as it showed that budgetary participation increased managers' propensity to create slack when they held more information than their superiors and figure 7.6 indicates that clearly.

Figure 7.6

Moderating role of information asymmetry on budgetary slack (group 2)



7-2-6 Budget Difficulty

This research hypothesised that when budget goals are difficult, high participation in budgetary process will increase managers motivation to achieve budget (H-II.3a) and decrease their propensity to create slack (H-II.3b). These hypotheses were tested using equations similar to 7.1 & 7.2 and their results are shown in table A-D-16 & A-D-17.

These tables show that budget difficulty had a positive interaction with budgetary participation affecting managers' motivation to achieve budget though it was statistically insignificant (n=63). The result also showed that budget difficulty had a negative interaction with budgetary participation affecting managers' propensity to create slack though statistically insignificant as well. These two results provided weak support to H-II.3a&b.

7-2-7 Budget Clarity

It was hypothesised that budget clarity has a positive moderating role between budgetary participation and managers' performance (H-II.4a) and satisfaction (H-II.4b). Again, equations similar to 7.1 & 7.2 were employed and their results are indicated in tables A-D-18 & A-D-19. From those tables we can see that budgetary participation had a negative interaction with budget' goals clarity affecting both performance and satisfaction though they were statistically insignificant. These results consequently opposite to the research hypotheses H-II.4a&b.

7-2-8 Locus of Control

This research hypothesised that locus of control moderates the relationship between budgetary participation and managers' propensity to create slack. In other word, it was proposed that when internal managers participate in budgetary process, their propensity to create slack will decrease. Chapter six mentioned that locus of control was measured using an instrument consists of fourteen items; seven in an internal scheme and the rest in an external scheme. In the inter-correlation matrix and

path analysis the whole instrument (fourteen items) was used, but in this section, and to provide sufficient evidence to this hypothesis, each scheme was used as a variable.

When each scheme was used independently, answers for strongly agree were scored high "seven" and strongly disagree were scored low "one". But when the fourteen items were used altogether as one measure, external scheme were reverse scored, as strongly agree scored low "one", and strongly disagree scored high "seven".

To test the role of locus of control as a moderating variables for each scheme, the researcher developed the following model in the way used in the previous tests.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \xi \qquad (7.5)$$

Where

Y = Budgetary Slack

X_1 = Budgetary participation

X_2 = Locus of Control "internal scheme"

To use the external scheme, X_2 was substituted with X_3 "external scheme" and the equation was run again. The results are shown in tables A-D-20 and A-D-21 (n= 62). The results of these tables indicate that there is an interaction between budgetary participation and locus of control affecting managers' propensity to create slack. To check the nature of this relationship, equations similar to 7.4 & 7.5 were employed, and the results were plotted in the figures 7.7 & 7.8.

Figure 7.7

Moderating role of locus of control
(internal scheme)

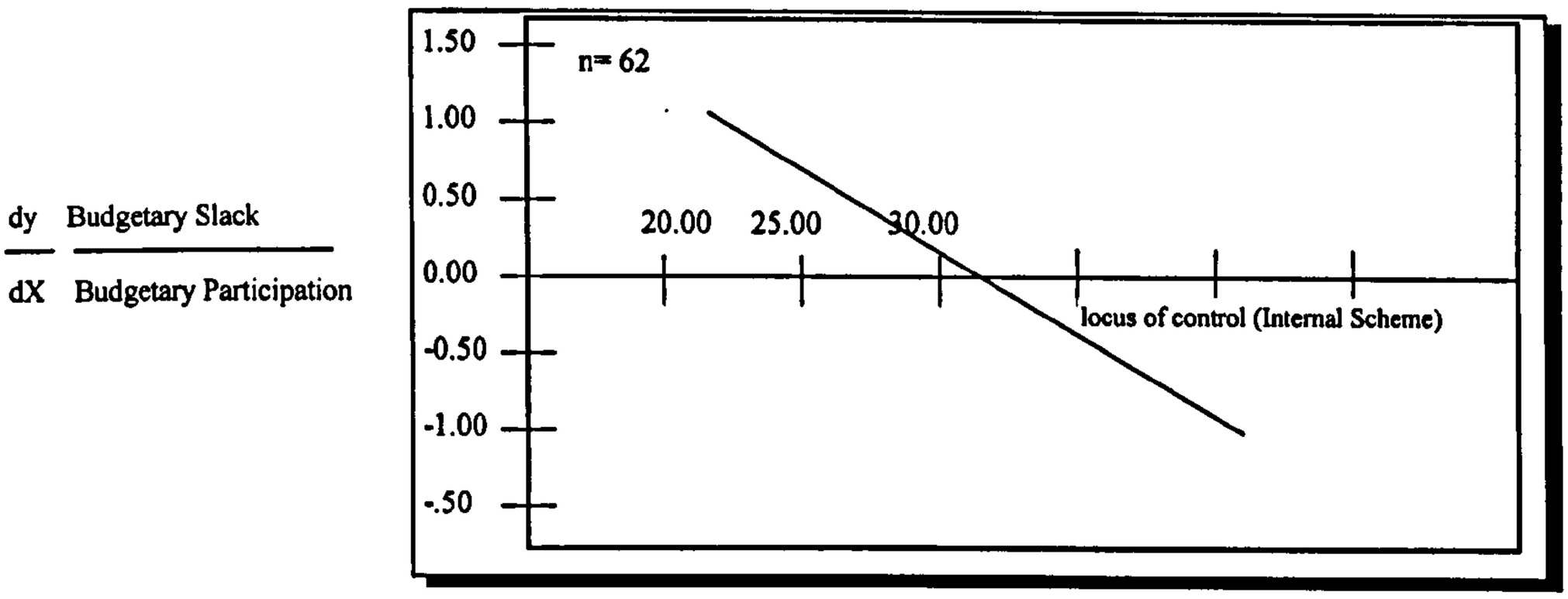
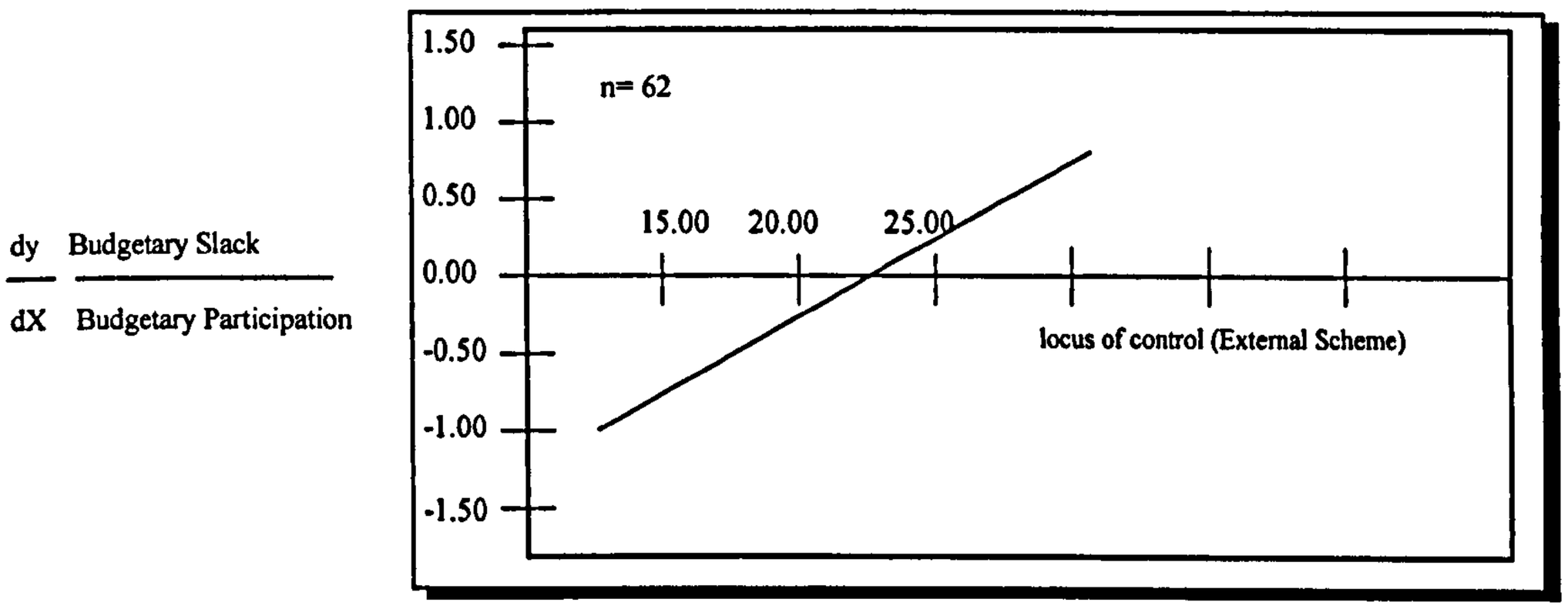


Figure 7.8

Moderating role of locus of control
(external scheme)



Figures 7.7 (internal scheme) indicates that managers who reported high scores in this measure (scores above 32.6), high participation decreased their propensity to create slack. Figure 7.8 (external scheme) indicates that managers who reported high scores in this measure (scores above 25.2), high participation increased their propensity to create slack. These results provided strong support to H-II.5.

7-2-9 Ability of Superiors to Detect Slack

This research hypothesised (H-II.10, p.3.22) that when the ability of managers' superiors to detect slack increase, high participation in budgetary process by those managers decrease their propensity to create slack. Again, equations similar to 7.1 was used and run. The result shown in table A-D-23 (n= 59) indicates that superiors' ability to detect slack moderate negatively the relationship between budgetary participation and budgetary slack though statistically insignificant. This result provide weak support to the research hypothesis.

7-2-10 Job Difficulty

This research hypothesised (H-I-11, p.2.30) that when job is difficult, high participation in budgetary process increases managers' performance. According to this hypothesis job difficulty has a positive moderating role. The result of this hypothesis is shown in table A-D-24 (n= 58). The result indicates that job difficulty had a negative moderating role between budgetary participation and managerial performance though statistically insignificant, and hence it provided weak rejection to the research hypothesis.

Summary and Conclusion

This chapter tested the research hypotheses using the moderating approach. These hypotheses as indicated in chapter five composed of twenty eight macro-and micro-level ones. Some of these hypotheses were tested by correlation analysis and the rest were tested by multiple regression. The results have showed that seven hypotheses were strongly supported yielding rate (25%). Nine hypotheses (32.1%) were weakly supported, and that means although the results were statistically insignificant, the effect was in the direction anticipated suggesting that these hypotheses have some creditability. Two hypotheses (7.2%) were strongly rejected and ten (35.7%) were also weakly rejected.

However, in order to avoid repetition, the end of chapter eight will provide a brief summary about the similarities and differences between the results of the moderating approach which were introduced in this chapter and those of the intervening approach which will be explained in the next chapter. Table 8-A-5 in the appendix of chapter eight also summarise these results.

Appendix of Chapter Seven

Table 7-A-1

Inter-correlation matrix of British sample

	Pro. Autom	Pro. Standr	Envr. Uncr	Organ. Size	Bud. Partic.	Bud. Emph	Considerat.	Init. Struct	Infr. Asym	Bud. Diffc	Bud. Clart	Loc. Contr	Abil. Slack	Job Diffcul	Bud. Motiv	Bud. Slack	Satisfaction	Sub. Involv	Perormance
Pro. Autom		-0.095	0.153	0.206	0.2	0.326	-0.017	0.09	-0.055	0.301	0.235	0.091	0.055	-0.138	0.02	-0.14	0.075	0.158	0.162
Pro. Standr	49		0.079	-0.322	-0.051	0.059	-0.271	-0.365	0.113	-0.064	-0.266	-0.112	-0.147	-0.099	-0.12	0.2	-0.04	-0.278	-0.069
Envr. Uncr	49	49		-0.099	-0.32	-0.188	0.142	-0.012	0.016	0.067	-0.095	-0.115	0.051	-0.06	0.161	0.072	-0.138	0.027	-0.108
Organ. Size	51	51	63		0.286	0.018	-0.052	0.018	0.048	-0.015	0.306	0.284	-0.02	0.057	-0.046	-0.135	0.038	-0.033	0.037
Bud. Partic.	50	50	62	64		0.476	0.111	0.172	-0.081	0.237	0.628	0.042	0.167	0.076	-0.026	-0.068	0.3	-0.187	0.565
Bud. Emph	50	50	62	64	63		-0.143	-0.091	-0.017	0.378	0.37	-0.167	-0.005	0.008	-0.039	-0.082	0.019	-0.031	0.109
Considerat.	50	50	62	64	63	63		0.752	-0.265	0.182	0.319	0.274	0.193	-0.061	-0.018	-0.349	0.484	0.229	0.181
Init. Struct	50	50	62	64	63	63	64		-0.339	0.119	0.43	0.342	0.313	-0.149	-0.065	-0.358	0.429	0.342	0.229
Infr. Asym	50	51	62	64	63	63	63	63		0.065	-0.115	-0.123	-0.187	0.189	-0.02	0.176	-0.131	0.06	0.049
Bud. Diffc	51	51	63	65	64	64	64	64	64		0.433	0.039	0.115	0.174	0.106	-0.407	0.124	0.294	0.12
Bud. Clart	51	51	63	65	64	64	64	64	64	65		0.157	0.328	-0.146	0.155	-0.314	0.273	0.349	0.387
Loc. Contr	49	49	61	63	62	62	62	62	62	63	63		0.341	0.095	0.038	-0.266	0.402	0.371	0.058
Abil. Slack	47	47	59	61	60	60	60	60	60	61	61	59		-0.041	0.092	-0.079	0.204	0.358	0.299
Job Diffcul	50	50	62	64	63	63	63	63	63	64	64	62	61		-0.058	-0.12	0.046	0.167	0.028
Bud. Motiv	50	50	63	64	63	63	63	63	63	64	64	62	60	63		0.098	0.012	0.464	0.277
Bud. Slack	50	51	62	64	63	63	63	63	63	64	64	62	60	63	63		-0.097	0.08	-0.025
Satisfaction	50	50	60	62	61	61	62	62	61	62	62	60	58	61	61	61		0.147	0.403
Sub. Involv	27	27	32	33	33	32	33	33	33	33	33	33	31	32	32	32	32		0.415
Perormance	47	47	58	60	59	60	59	59	59	60	60	58	56	59	59	60	57	30	

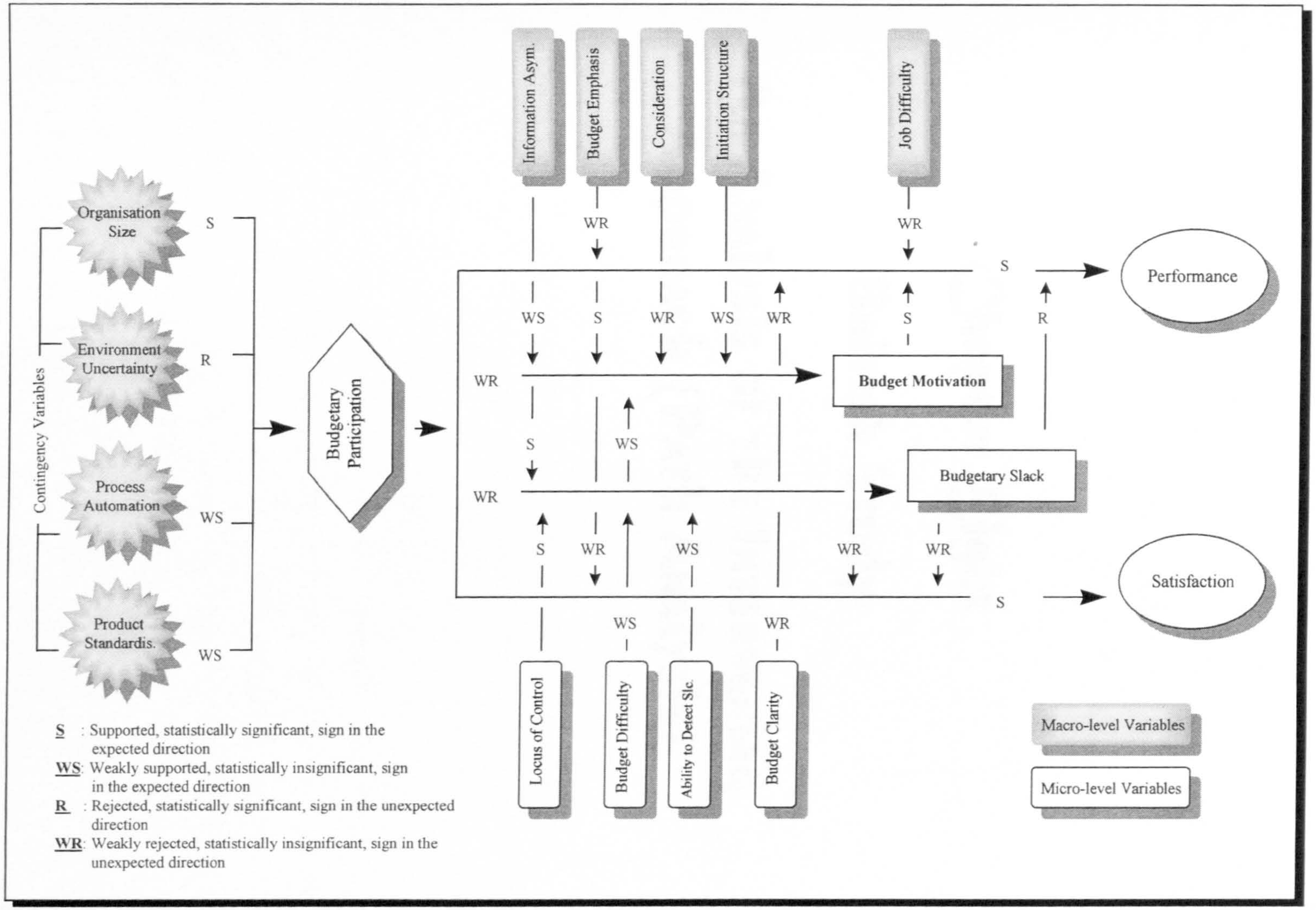
Sig.	0.05	0.01	0.1

Numbers below the shaded area refer to the number of cases

Figure 7-A-1

The results of testing the moderating approach

(British sample)



Chapter Eight

British Study

An Analysis of the Intervening Approach (Path Analysis)

8.1

8- Chapter Eight
An Analysis of the Intervening Approach for the British Study

In this chapter, research hypotheses will be re-tested using the intervening approach introduced in chapter five. At the end of this chapter there is a summary of the results, and chapter eleven will introduce further explanations for these results with respect to the effect of culture. As mentioned before, the proposed model was divided into four sub-models to facilitate testing the hypotheses. The mathematical equations necessary to test the four sub-models were developed and run (see Appendix C). The path diagrams for the results of the four sub-models are illustrated in figures 8-A1 to 8-A-5 in the appendix to this chapter. As the sample sizes are different in all variables, so in order to avoid bias in the analysis, only the respondents who answered all variables involved in the four sub-models have been used. This resulted in 48 valid cases. On the other hand, since the size of the sample limits this study, and path analysis for some equations (A-C-1 to 6) involved a large number of variables with a relatively small number of respondents[1], each hypothesis was also individually tested.

The whole model shown in chapter five was designed to test the intervening role for the variables proposed in this study. Each sub-model provides the results of a large number of hypotheses in one test. Whereas the individual test was designed to test the intervening role for each particular variable. Both analyses lead to the same results, but equations in the whole model involve a large number of variables which consequently require a large number of respondents to provide sufficient reliability to the results. Therefore, each hypothesis is tested individually to provide further support for the results of the four sub-models. Table 8-A-5 at the end of this chapter shows the results of both the individual tests and the whole model.

To test the contingent role individually in the way hypothesised, the following model was used and it is shown in figure 8.1.

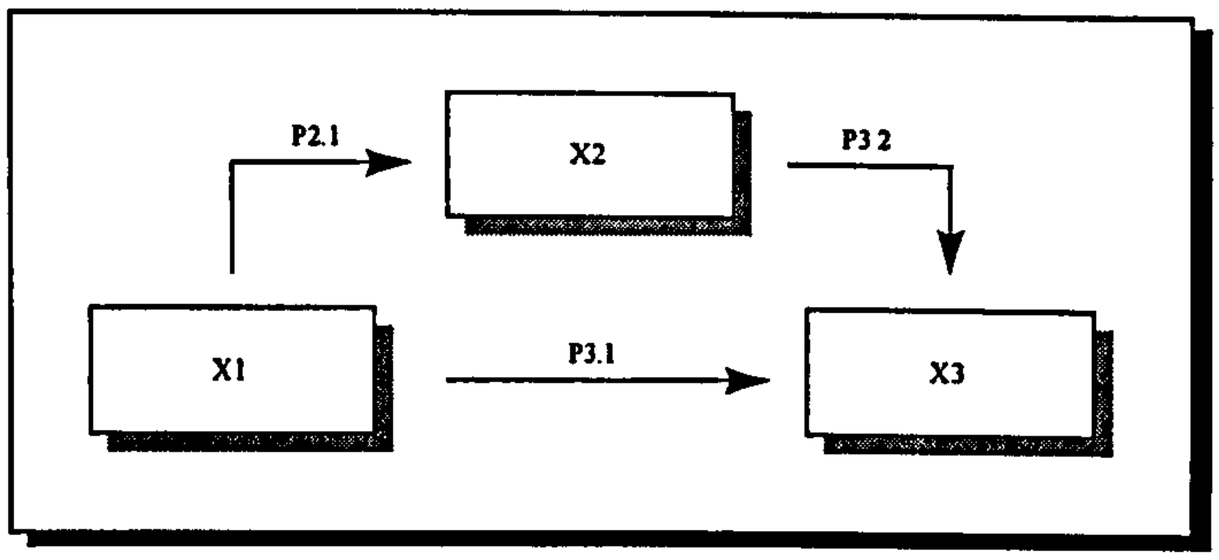
1. Appendix C shows the sample size for each equation.

$$X_3 = P_{3.1} X_1 + P_{3.2} X_2 + P_{3.a} X_a \quad (8.1)$$

$$X_2 = P_{2.1} X_1 + P_{2.b} X_b \quad (8.2)$$

Figure 8.1

Testing research hypotheses individually using path analysis



Where, X_1 = budgetary participation, X_2 = the relevant contingent variable, X_3 = the dependent variable (i.e. performance, satisfaction, slack or motivation), and X_a & X_b are standard residual. The results of the research hypotheses according to the intervening approach are discussed below. The results of the individual test are shown in appendix E at the end of the thesis.

8-1 The Effect of the Contingency Variables on the level of Budgetary participation

The effect of the contingency variables on budgetary participation is shown in figure 8-A-1 in the appendix to this chapter. The test was conducted using multiple regression which included the four contingency variables as independents on budgetary participation. In chapter seven the effect of each variable was individually tested using correlation analysis.

Figure 8-A-1 (whole model) indicates that organisation size had the largest positive coefficient though it was statistically insignificant. Its sign was consistent with (H-I.1). The next largest positive contribution was for technology "process automation". Again its sign was consistent with (H-I.3, p.2.14) though it was statistically insignificant. Product standardisation had a very weak positive contribution to

managers' participation. This contradicts (H-I.4, p.2.15) but the coefficient was not significant. Environment uncertainty had a negative relationship (but insignificant) with budgetary participation opposite to H-I.2.

The results of the individual test (see table 7-A-1) for process automation, environment uncertainty, and organisation size were similar to those of obtained from the whole model, but the sign of the size was significant. The sign of product standardisation was negative, and hence it is different from that shown in figure 8-A-1 (whole model). With reference to H-I.4, coefficients for the whole model and individual test were small and statistically insignificant.

8-2 Budgetary participation, performance, and satisfaction

From table 8-A-1 (sub-model 1) in the appendix of this chapter it can be seen that budgetary participation had a positive and significant contribution to managers' performance.

The result sub-model 1 was consistent with hypothesis H-II.1a which postulated a positive relationship between budgetary participation and managerial performance. The result of the individual test for this hypothesis was also consistent with sub-model 1 as budgetary participation had a positive and significant relationship with managerial performance (n=59).

With reference to the relationship between budgetary participation and satisfaction, the results of sub-model 2 shown in table 8-A-2 indicate that budgetary participation was related positively and significantly with managers' satisfaction. The results of the individual test shown in table 7-A-1 (n=61) was consistent with the results of sub-model 2. These results are supportive to research hypothesis H-II.1b which postulated a positive relationship between these two variables.

8-3 Budgetary participation, motivation and budgetary slack

Figure 8-A-2 (sub-model 1) in the appendix to this chapter shows that budgetary participation had a negative and significant contribution to managers' motivation to achieve their budgets. The result of the individual test (table 7-A-1) indicated that

budgetary participation had a negative (statistically insignificant) relationship with budget motivation (n=63). The results of sub-model 1 and the individual test were opposite to the hypothesis H-II.6 which postulated a positive relationship. However, chapter eleven provides possible explanations.

On the other hand, the results of sub-model 3 (figure 8-A-4) showed that budgetary participation had a weak (statistically insignificant) negative contribution to budgetary slack. The result of the individual test (n=63) was consistent with sub-model 3 as budgetary participation had a negative relationship with budgetary slack (but insignificant). The results of sub-model 3 and the individual test provide a weak support to H-II.9.

8-4 Budget Motivation

Hypothesis H-II.7 stated that when managers are highly motivated to achieve their budget, high participation enhanced managerial performance (H-II.7) and satisfaction (H-II.8). Since this hypothesis was formulated based on the moderating approach, it was necessary to translate it according the intervening approach to indicate the anticipated relationships between these three variables. Budget motivation according to the moderating approach plays a positive moderating role, therefore, using the intervening approach we can argue that budgetary participation increases managers' motivation to achieve their budget which in turn increases their managerial performance and satisfaction. Figure 8-A-2 (sub-model 1) shows that budget motivation had a negative and significant intervening role between budgetary participation and managerial performance. This result was opposite to the anticipated direction. Table 8-A-1 at the end of this chapter shows that the contribution of budgetary participation to managers' performance via budget motivation was negative and equal to (-27%) of the direct effect. The results of the individual test showed an insignificant intervening role for budget motivation between budgetary participation and budgetary slack (n=58). The path coefficient in the individual test was so close to zero (.008) that would be misleading to attribute a definite sign to the coefficient. Section 11-1-2-6 (p.11.25) provides more possible explanations.

With reference to H-II.8, the results of sub-model 2 (figure 8-A-3) indicate that budget motivation had a negative role between budgetary participation and managers' satisfaction at statistically insignificant level. The result of the individual test has also showed insignificant intervening role for budget motivation between budgetary participation and satisfaction (n=60). Path coefficient was also close to zero and it was difficult to attribute a definite sign to the coefficient.

8-5 Budgetary Slack

It was proposed that when managers' propensity to create slack is high, high participation decreases their performance (H-II.11) and increases their satisfaction (H-II.12). The translation of these hypotheses according the intervening approach are indicated in figures 8.2 & 8.3.

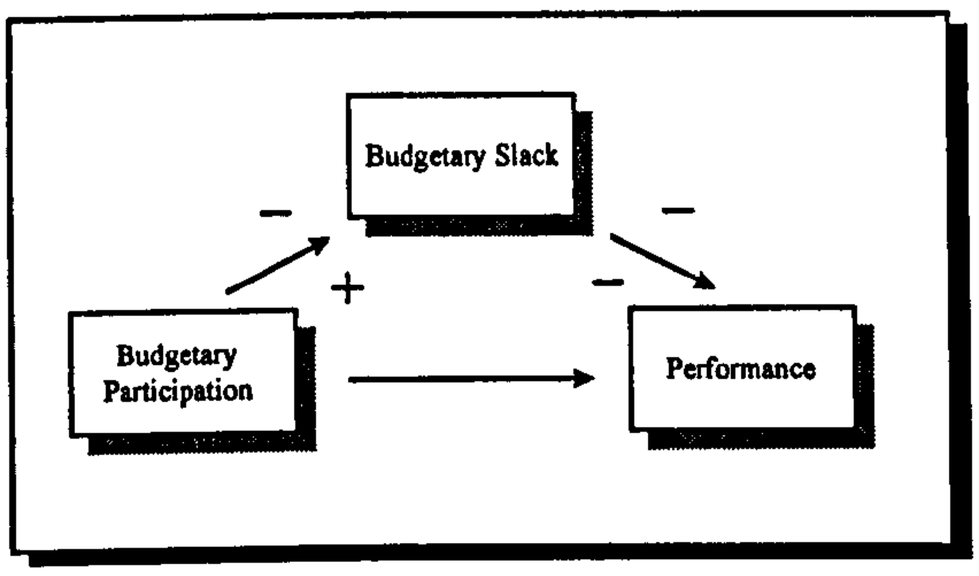


Figure 8.2

Translation of H-II.11 according to the intervening approach

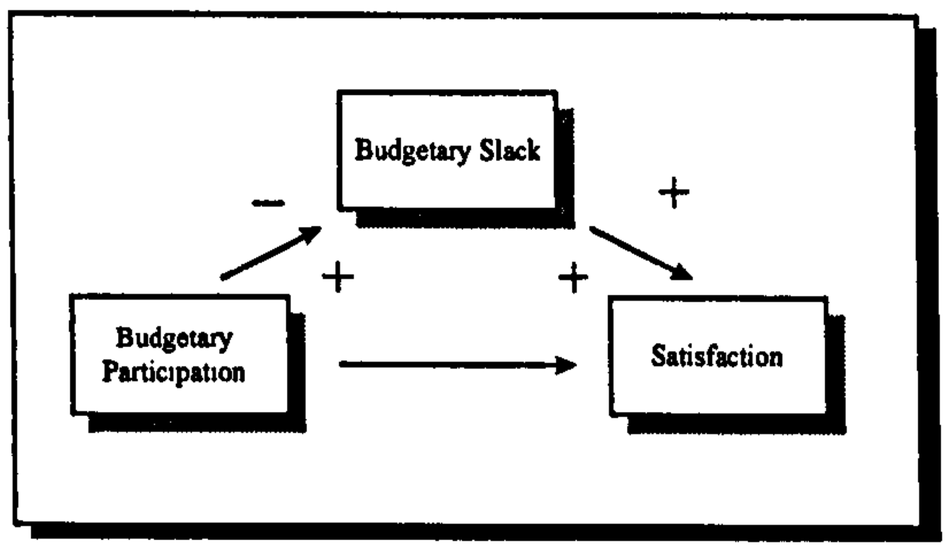


Figure 8.3

Translation of H-II.12 according to the intervening approach

Figures 8.2 & 8.3 show two possibilities for each hypothesis (signs above the arrows indicate the first possibility, whereas those below arrows indicate the second possibility). The first possibility argues that if high participation decreases managers' propensity to create slack, that would lead in turn to high performance (figure 8.2) and low satisfaction (figure 8.3). The second possibility argues that if managers participation increases managers' propensity to create slack, that would lead in turn to low performance (figure 8.2) and high satisfaction (figure 8.3).

The results shown in figures 8-A-4 (sub-model 3) and 8-A-5 (sub-model 4) indicate that budgetary slack had insignificant role on both relationships. The results of the individual test for H-II.11 (n=59) and H-II.12 (n=60) were consistent to those of sub-models 3 & 4. The direction of the effect of both the whole model and individual test was opposite to the anticipated direction of H-II.11. On the other hand the results of the whole model provided weak support to H-II.12 whereas the results of the individual test weakly rejected it (see table 8-A-5 in the appendix to this chapter).

8-6 Budget Emphasis

It was proposed that when budget emphasis is high, participation in budgetary process increases performance (H-I.7a), satisfaction (H-I.7b), and motivation (H-I.8). Figures 8-A-2 (sub-model 1) and 8-A-3 (sub-model 2) show the results. Again, a translation of these hypotheses according the intervening approach is: when managers participate in budgetary process, their superiors exercise more emphasis on meeting the budget. This leads in turn to high performance, satisfaction, and motivation. With reference to H-I.7a, the results of the whole model indicated that budget emphasis had a negative intervening role (statistically insignificant) between budgetary participation and performance. Tables 8-A-1 shows that the contribution of budgetary participation to managers' performance via budget emphasis was negative and equal to (-14 %) of the direct effect. The result of the individual test (n=59) was consistent with the results of sub-model 1. However, both results did not provide any support to H-I.7a.

With reference to the effect of budget emphasis on managers' satisfaction (H-I.7b), figures 8-A-1 & 8-A-3 (sub-model 2) show that budget emphasis had a positive intervening role in this relationship at statistically insignificant level. Table 8-A-2 in the appendix to this chapter shows the contribution of budgetary participation on managers' satisfaction via budget emphasis which was positive and equal to (18 %) of the direct effect. These results provided weak support to the research hypothesis (H-I.7b) which postulated a positive contingent role for budget emphasis between budgetary participation and managers' satisfaction. The results of the individual test (n=60) were also opposite to the research hypothesis though statistically insignificant.

H-I.8 postulates that budget emphasis has a positive contingent role between budgetary participation and motivation relationship. Figures 8-A-1 & 8-A-2 (whole model) show that budget emphasis had insignificant intervening role in this relationship. The result of the individual test (n=62) was consistent with the whole model though statistically insignificant. However, the results of both analysis provided weak support to H-I.8.

8-7 Leadership Style

Hypothesis (H-I.5, p.2.19) stated that when superiors have a leadership style characterised by low initiation structure and high consideration, high participation will increase their motivation to achieve the budget. Although the moderating approach is the best approach to test this hypothesis, it was tested also here to see if there is any association between these three variables either to confirm or reject the results of the moderating approach. A possible translation for this hypothesis is shown in the figure 8.4 below.

Figure 8.4

Translation of H-I.5 according to the intervening approach

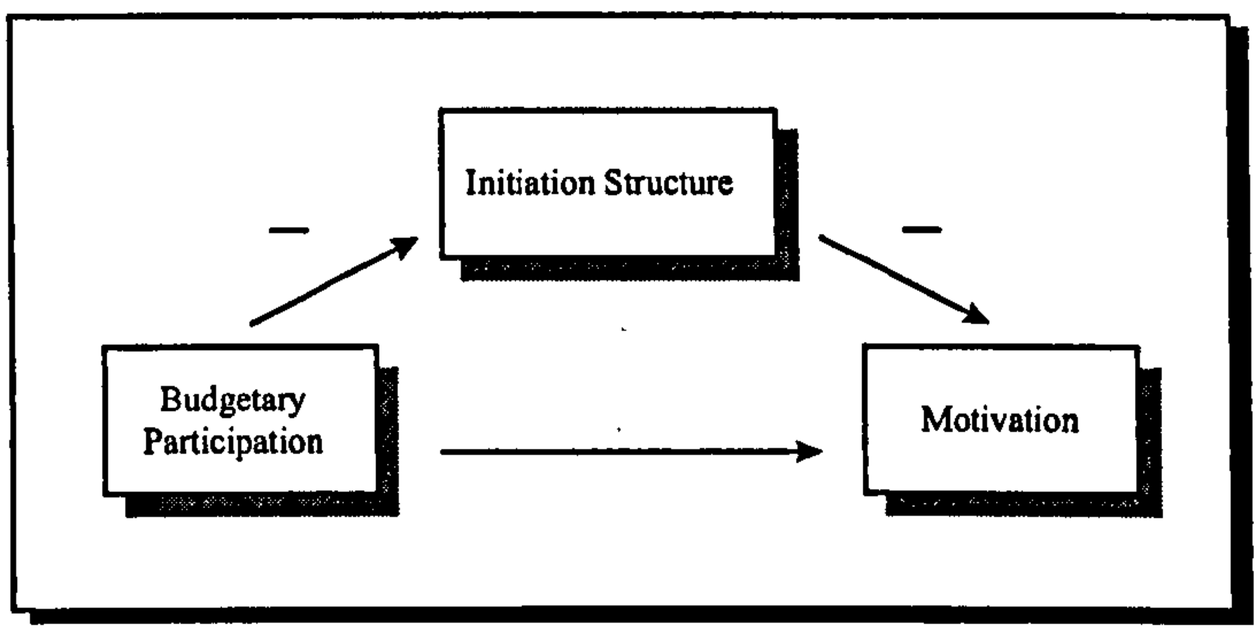


Figure 8.4 indicates that when managers participation in budgetary process, this will be associated with low initiation structure when in turn increases their motivation. Figures 8-A-1 & 8-A-2 (sub-model 1) show that both styles (consideration and initiation structure) had insignificant intervening role in this relationship. The result of the

individual test (n=62) was consistent with the result of sub-model 1. Both results were opposite to the research hypothesis at statistically insignificant level.

It was also hypothesised (H-I.6, p.2.19) that budget emphasis has a positive association with consideration and a negative one with initiation structure. It was not possible to test this relationship using the whole model, as it did not hypothesise associations between the first set of the intervening variables. It was possible to test this hypothesis by the individual test. It worth attracting the attention to the fact that the results of path analysis and correlation analysis are identical if the relationship is considered only for two variables. However, the results were also insignificant and their signs were opposite to H-I.6 (n=63).

8-8 Information Asymmetry

This research hypothesised that when managers are in a position of having more information than their superiors, high participation will increase their motivation (H-I.9a) and their propensity to create slack. On the other side, when superiors are in a position of having more information than their subordinates, that will lead to low motivation and low slack. The translation of this hypothesis according to the intervening approach tested in this study is are shown in the following figures.

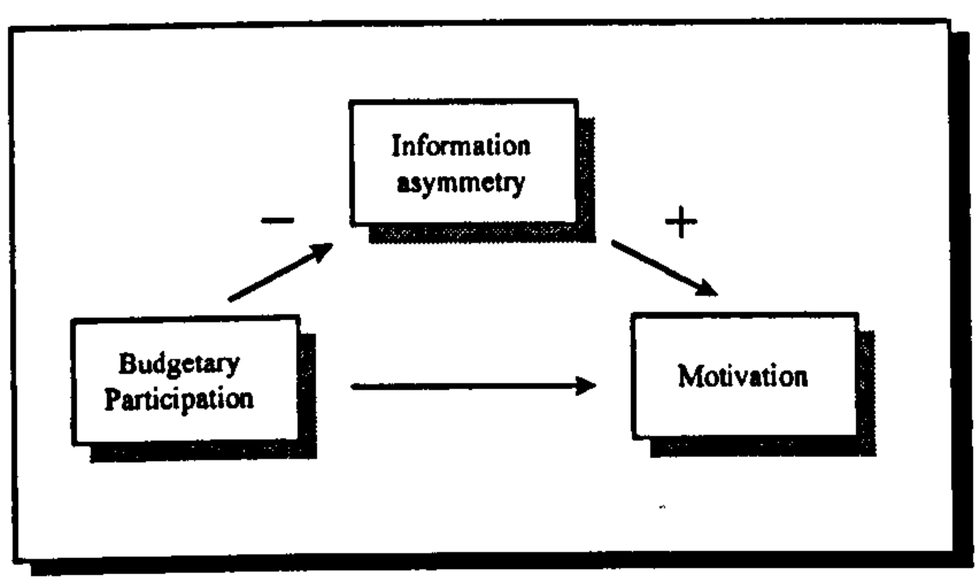


Figure 8.5

Translation of H-I.9a according to the intervening approach

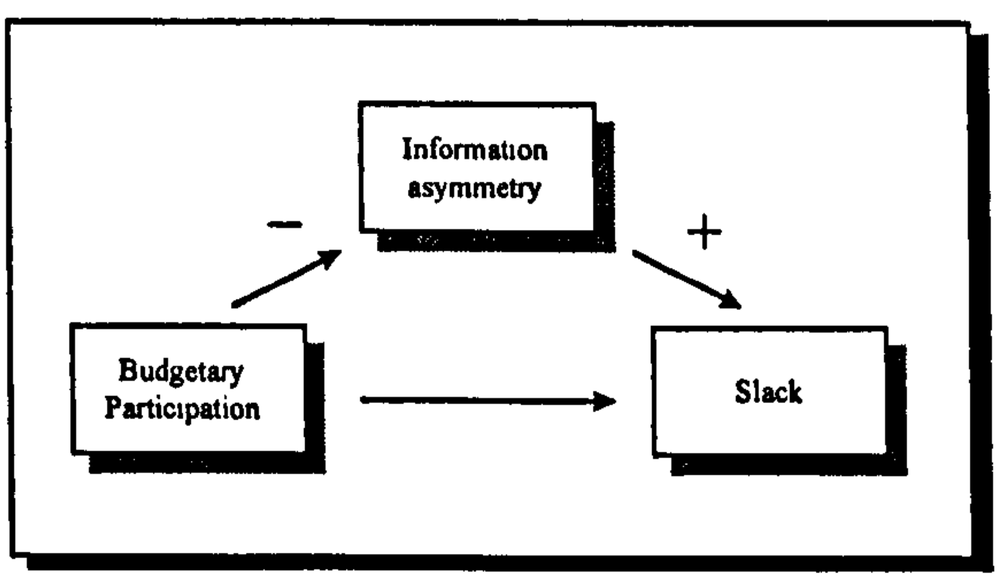


Figure 8.6

Translation of H-I.9b according to the intervening approach

As discussed in chapter six information asymmetry was measured using a scale range from 1 "whereas superiors have more information than their subordinate" and 7

"whereas subordinates have more information than their superiors". Therefore, according to the intervening approach shown in figures 8.5 & 8.6, high participation in budgetary process will decrease information asymmetry in favour of superiors. This will decrease both their motivation and slack (sign + means when information asymmetry decreases, motivation also decreases).

The result of sub-model 1 (figures 8-A-1 & 8-A-2) showed that information asymmetry had an insignificant intervening role between budgetary participation and managers' motivation to achieve budget. The direction of the effect was opposite to H-I.9a. On the other hand, the direction of the individual test (n=62) was consistent with the research hypothesis though at a statistically insignificant level.

With reference to H-I.9b the result of sub-model 3 (figures 8-A-1 & 8-A-4) shows that information asymmetry had an insignificant role between budgetary participation and budgetary slack. The direction of the effect was opposite to the research hypothesis. On the other hand the direction of the individual test (n=62) was consistent with H-I.9.b though at a statistically insignificant level.

This research also postulates (H-I.10) that information asymmetry and organisation size are positively related. Again, it was not possible to test this proposition using the whole model, but the result of the individual test (n=64) was consistent with the correlation analysis as they provided weak support to H-I.10.

8-9 Budget Goals Difficulty

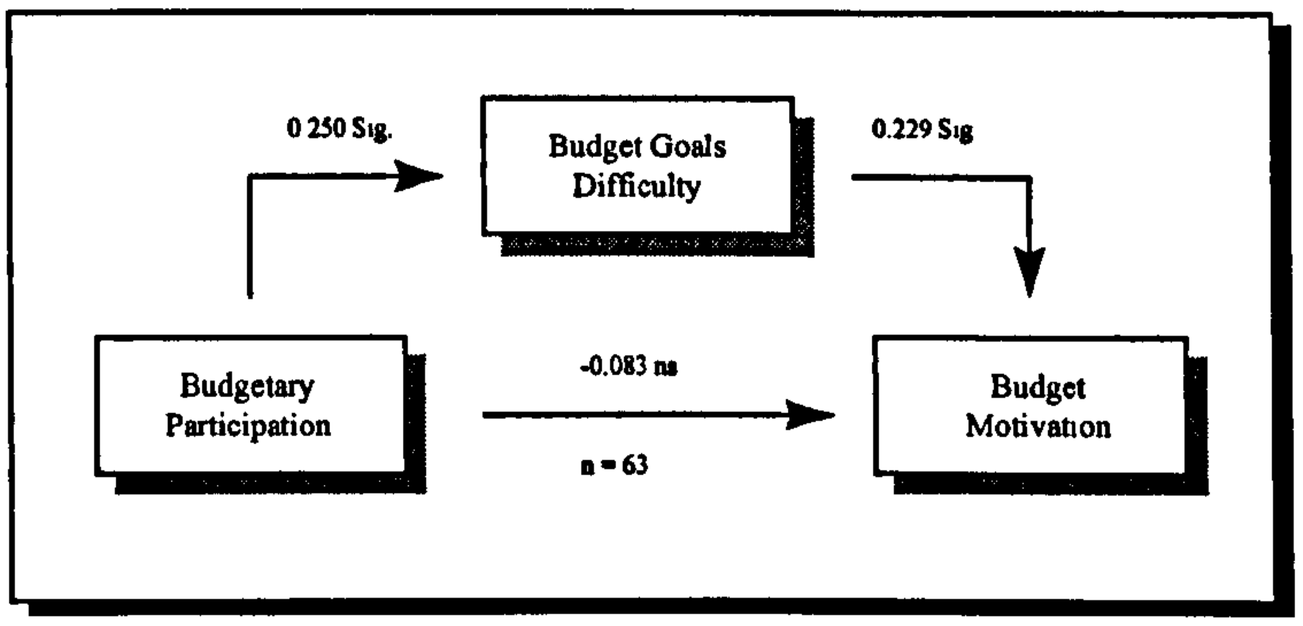
This research hypothesised that when budget goals are high, high participation will increase managers' motivation (H-II.3a) and decrease their propensity to create slack (H-II.3b). These hypotheses can be translated according to the intervening approach as follows; when managers participate in budgetary process, this implies their agreement to accept more responsibilities and as a result they perceive their budget goals are more difficult. This will lead in turn to high motivation and low slack.

The results illustrated in figures 8-A-1 & 8-A-2 (sub-model 2) show that budget difficulty had a negative intervening role between budgetary participation and managers'

motivation (statistically insignificant). On the other hand, the results of the individual test (n=63) found a positive and significant intervening role for budget difficulty which was consistent with H-II.3a. Figure 8.7 shows this relationship clearly.

Figure 8.7

The intervening role of budget difficulty on managers' motivation



The results shown in figure 8.7 indicate that budget goal difficulty had a significant intervening role between budgetary participation and managers' motivation to achieve budget. As indicated in the previous figure, budgetary participation increases budget goals difficulty which increases their motivation to achieve budget.

With reference to H-II.3b which postulates that budget difficulty has a negative contingent role between budgetary participation and managers' propensity to create slack. The results of the sub-model 3 (figures 8-A-1 & 8-A-4) and the individual test (n=63) provided strong support to this hypothesis. This hypothesis was also supported by the moderating approach in that the sign of the effect was correct though the coefficient was statically insignificant (see table 8-A-5 in the appendix to this chapter).

8-10 Budget Goals Clarity

This research postulated that when budget goals are clear, high participation increases managerial performance (H-II.4a) and satisfaction (H-II.4b). The contingent role for budget clarity using the intervening approach proposes that budgetary participation increases budget goal clarity which consequently increases managers' performance and satisfaction. The results of the sub-model 1 & sub-model 2 (see figures

8-A-2 & 8-A-3) indicate that budget clarity had a negative intervening role for both relationships though the coefficients were statistically insignificant. These results were opposite to the research hypotheses which postulated a positive intervening role for budget goal clarity.

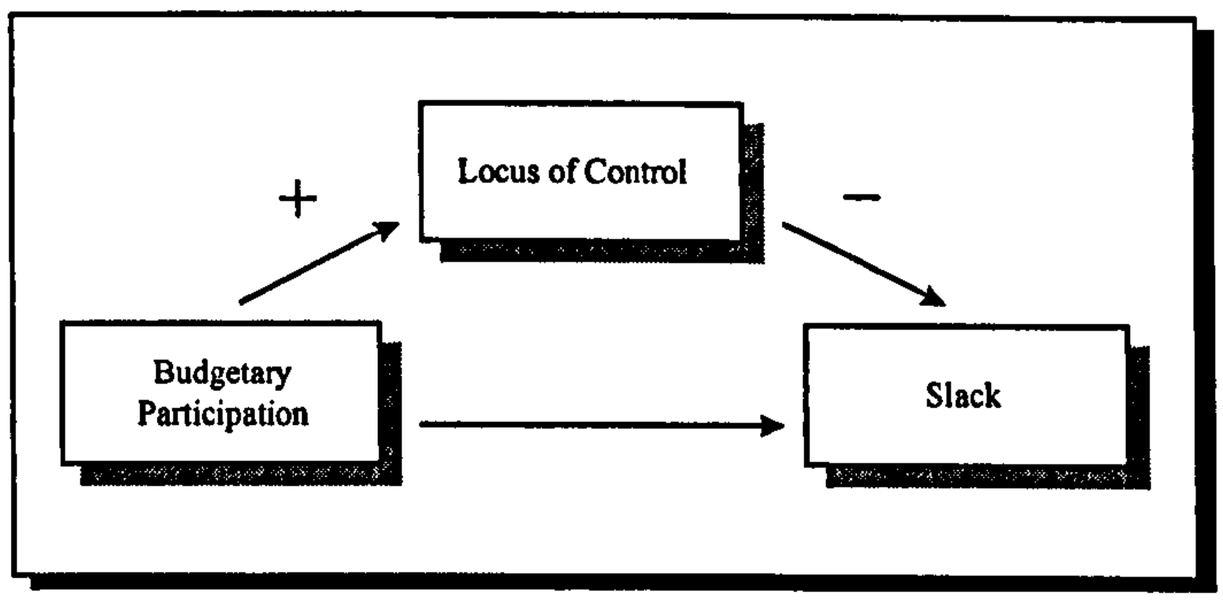
Table 8-A-1 (sub-model 1) shows that the contribution of budgetary participation on managers' performance via budget clarity was negative and equal to (-15%) of the direct one. When budget clarity was used in an intervening role between budgetary participation and managers' satisfaction, the results shown in table 8-A-2 reported a negative role equal to (-62%) of the direct effect. On the other hand, the results of the individual test provided weak support to H-II.4a (n=59) & H-II.4b (n=61) because the coefficients were statistically insignificant. The results of the whole model and the individual test were statistically insignificant and thus they do not provide sufficient support to the research hypothesis.

8-11 Locus of Control

It was hypothesised (H-II.5, p.3.15) that locus of control has a contingent role between budgetary participation and managers' propensity to create slack. In other word, when internals participate in budgetary process they are less likely to create slack than externals. Again, although the moderating approach is more suitable for this hypothesis, the intervening approach has also been tested. A possible translation for this hypothesis according to the intervening approach is that when managers participate in budgetary process, it gives more self-confidence to a group of managers (internals) who seek responsibilities and this group are less likely to create slack. Figure 8.8 may indicates that clearly.

Figure 8.8

Translation of H-II.5 according to the intervening approach



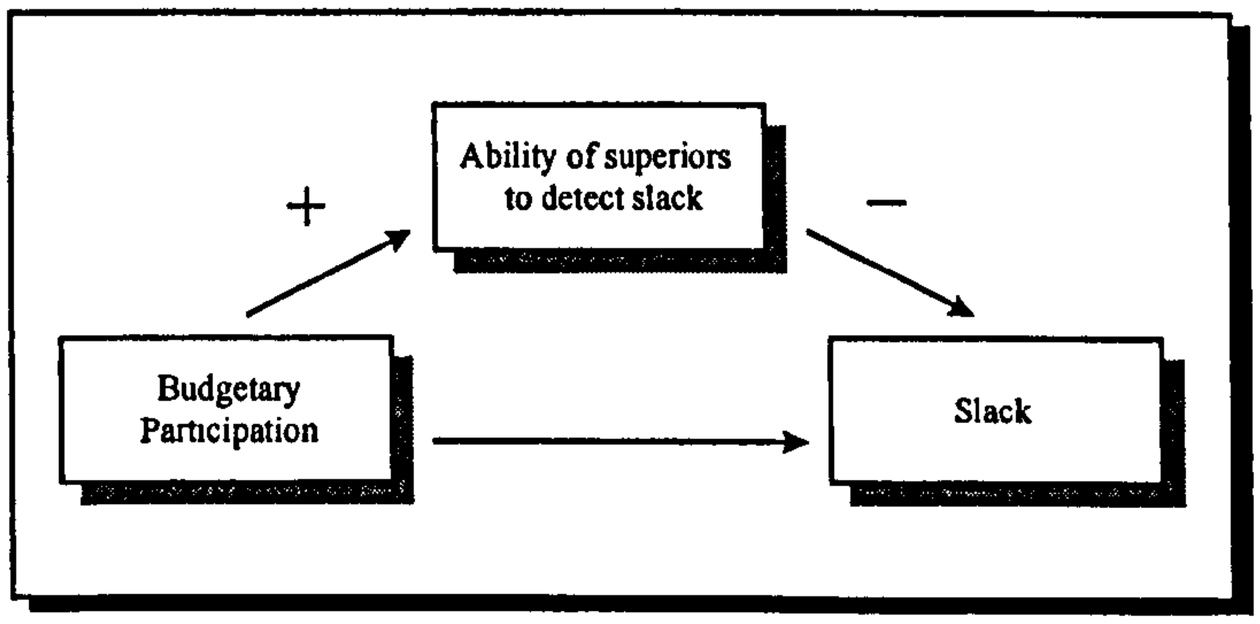
As shown in figure 8.8 internals (high scores in locus of control) desire high level of participation in the budgetary process and they are less likely to create slack. The results of sub-model 3 (figures 8-A-1 & 8-A-4) show insignificant support for an intervening role for locus of control between budgetary participation and slack. The direction of the effect was consistent with H-II.5. On the other hand, the direction of the individual test (n=61) was opposite to the research hypothesis though it was at a statistically insignificant level.

8-12 Ability of superiors to Detect Slack

This research postulated (H-II.10, p.3.22) that when superiors have high ability to detect slack high participation will decrease managers' propensity to create it. The translation of this hypothesis according to the intervening approach is shown in figure 8.9.

Figure 8.9

Translation of H-II.10 according to the intervening approach



As indicated in figure 8.9 when managers participate in the budgetary process, their superiors will have more work-related information which is provided by the managers by which the superiors' ability to detect slack increases. Consequently when superiors ability to detect slack increases, managers' propensity to create slack will decrease.

The results of sub-model 3 (figures 8-A-1 & 8-A-4) showed an insignificant intervening role for superiors' ability to detect slack between managers' participation and slack. The direction of the effect was opposite to the research hypothesis. On the other hand, the results of the individual test (n=59) weakly supported H-II.10 as the signs were correct but at a statistically insignificant level. The results of both the whole model and the individual tests are insignificant and they do not support to the research hypothesis.

8-13 Job Difficulty

This research hypothesised H-I.11 (p.2.30) that when a job is difficult, high participation increases managerial performance. Again, the translation of this hypothesis is similar to that explained in the section of budget goals difficulty. It is possible to argue that when managers participate in the budgetary process, it implies their agreement to accept higher levels of job difficulty, which may result in higher levels of managerial performance.

The results of sub-model 1&2 (figures 8-A-2 & 8-A-4) and the individual test were similar as they found that job difficulty has an insignificant intervening role. From table 8-A-1 at the appendix of this chapter it can be seen that the contribution of budgetary participation to managerial performance via job difficulty was very weak and equal to (-1.2 %) of the direct effect. This result provides a weak rejection of H-I.11.

Summary and Conclusion

Research hypotheses were tested on a sample of British managers using the two analytical approaches adopted in this study. Chapter seven discussed the results of the moderating approach, and this chapter re-tested the hypotheses using the intervening approach. These complementary approaches provided evidence about the robustness of the conclusion for each hypothesis. As the size of the sample used in this study is limited, and some equations in the whole model involved a large number of variables, therefore, an individual test for each hypothesis was also done using path analysis.

The results explained in chapter seven (moderating model) and chapter eight (intervening model) provided evidence that supported some hypotheses but contradicted others. This section summarises the similarities and dissimilarities between the results of the two approaches. No explanations for each hypothesis will be considered here, as this will discussed fully in chapter eleven. Table 8-A-5, however, summarises the results of both approaches. From this table we can classify the results of the hypotheses using the two approaches into four groups according to the statistical significance of the tests as follow:

First group. Hypotheses which were either supported or rejected strongly using the two approaches. The following hypotheses fell into this group: the positive impact of organization size on budgetary participation (H-I.1), and of budgetary participation on managers' performance (H-II.1a) and of satisfaction (H-II.1b) were statistically significant in the direction anticipated. On the other hand, environment uncertainty was strongly rejected in the two approaches. In path analysis (the whole model) this hypothesis was weakly rejected whereas it was strongly rejected where using the individual test.

Second group. Hypotheses which were either weakly supported or weakly rejected by both approaches. These results were not significant at $p \leq 0.1$. Thus the results of the analysis, while not providing conclusive evidence are at least suggestive that the hypotheses have some credibility. Again many hypotheses fell into this group. For

example, the positive impact of process automation on budgetary participation (H-I.3) was weakly supported in the two approaches. On the other hand, the effect of budget emphasis (H-I.7a) between budgetary participation and managerial performance, and the effect of budget motivation between budgetary participation and satisfaction (H-II.8) were weakly rejected in the two approaches.

Third group. Hypotheses which were strongly supported or rejected by one approach and weakly by the other. Hypotheses which fell into this groups are: the effect of budget emphasis between budgetary participation and motivation (H-I.8), and locus of control as a contingent variable between budgetary participation and slack. Both hypotheses were strongly supported by the moderating approach and weakly by the intervening one. Other hypotheses such as the effect of budget goals difficulty between budgetary participation and both motivation (H-II.7a) and slack (H-II.7b) were strongly supported by the intervening and weakly by the moderating. On the other hand, the role of budgetary slack as a contingent variable between budgetary participation and performance was rejected strongly by the moderating and weakly by the intervening one.

These results may reflect the appropriateness of the approach adopted for each hypothesis in the British sample. Although neither Brownell & McInes [1986] nor Mia [1988] explicitly explored the dimension of culture, we can argue this proposition based on their results which were applied in two different cultures. However, chapter eleven will indicate this matter in detail.

Fourth group: On several occasions the results of one approach contradict those computed from the other, but neither approaches were statistically significant. The sample failed to cast any light on these hypotheses. It was difficult to draw conclusion about the role information asymmetry (H-I.9a), budget emphasis on satisfaction (H-I.7b), product standardisation and budgetary participation (H-I.4), budget clarity and both performance and satisfaction (H-II.4a&b). However, chapter eleven will provide more explanation about the result of each hypothesis in detail.

Appendix of Chapter Eight

Figure 8-A-1

Path contributions of contingency variables on budgetary participation
and path contributions of budgetary participation on intervening variables (1)

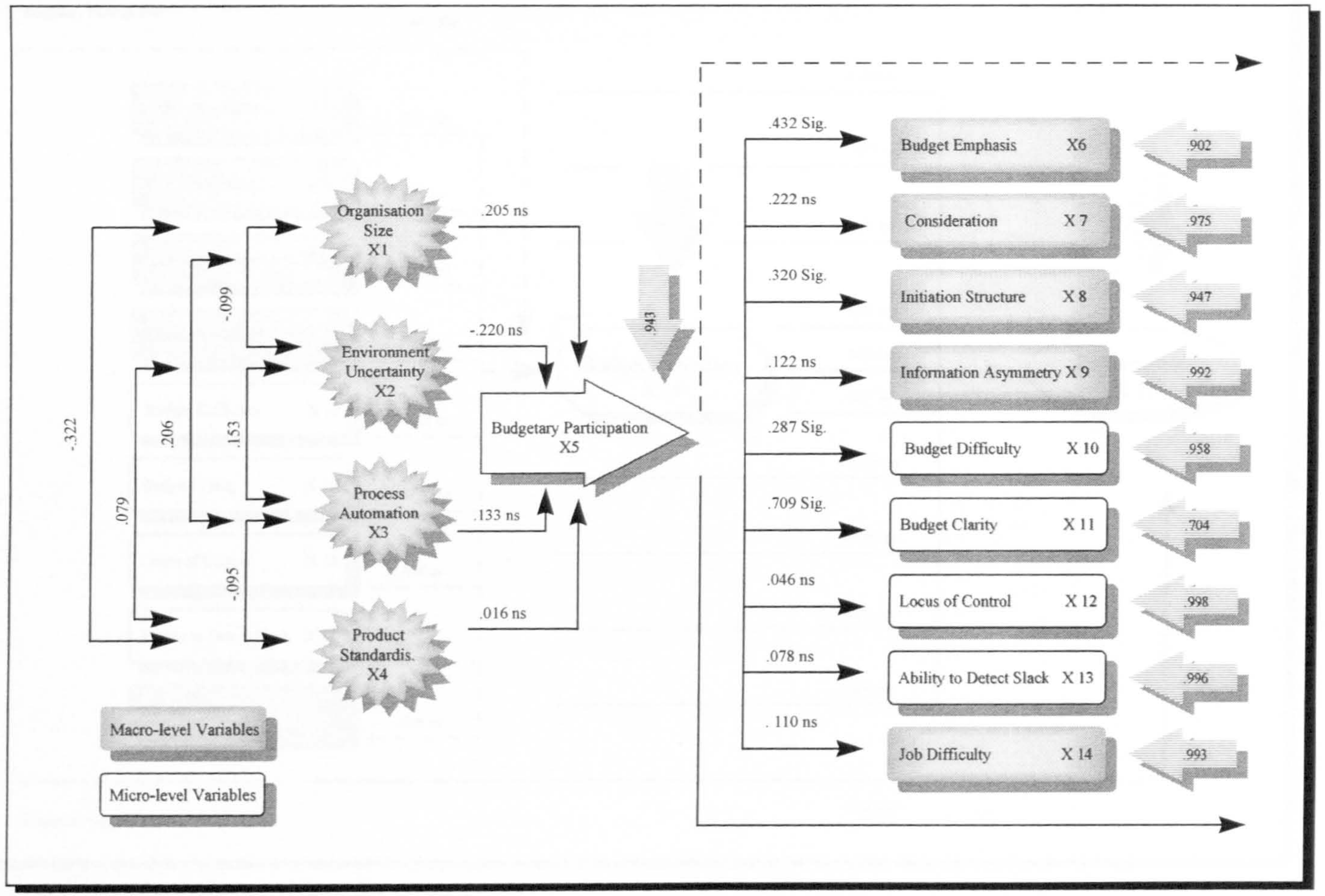


Figure 8-A-2

Sub-model (1)

Path contributions of budgetary participation on performance through intervening variables 1 and budget motivation

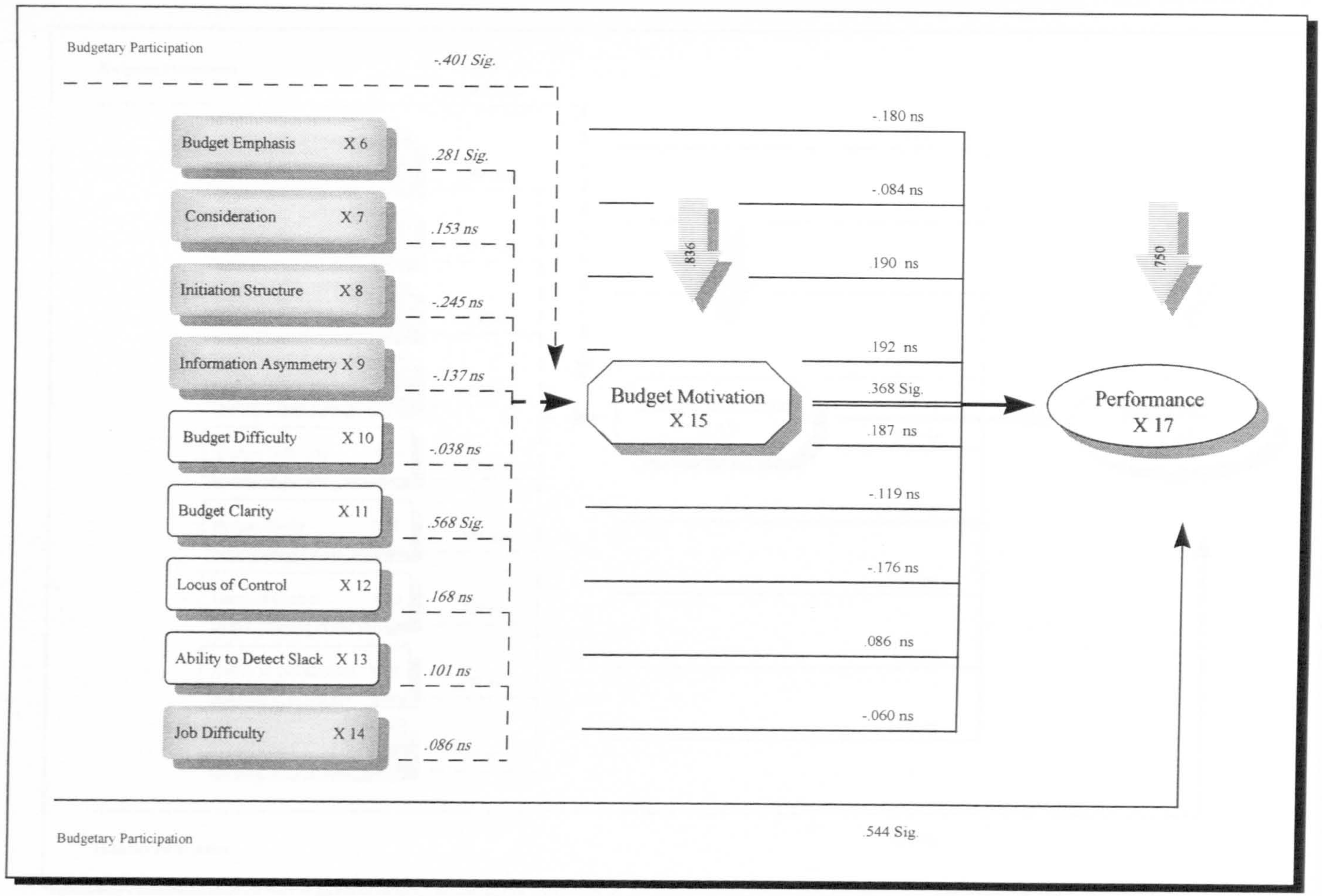


Figure 8-A-3

Sub-model (2)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budget motivation

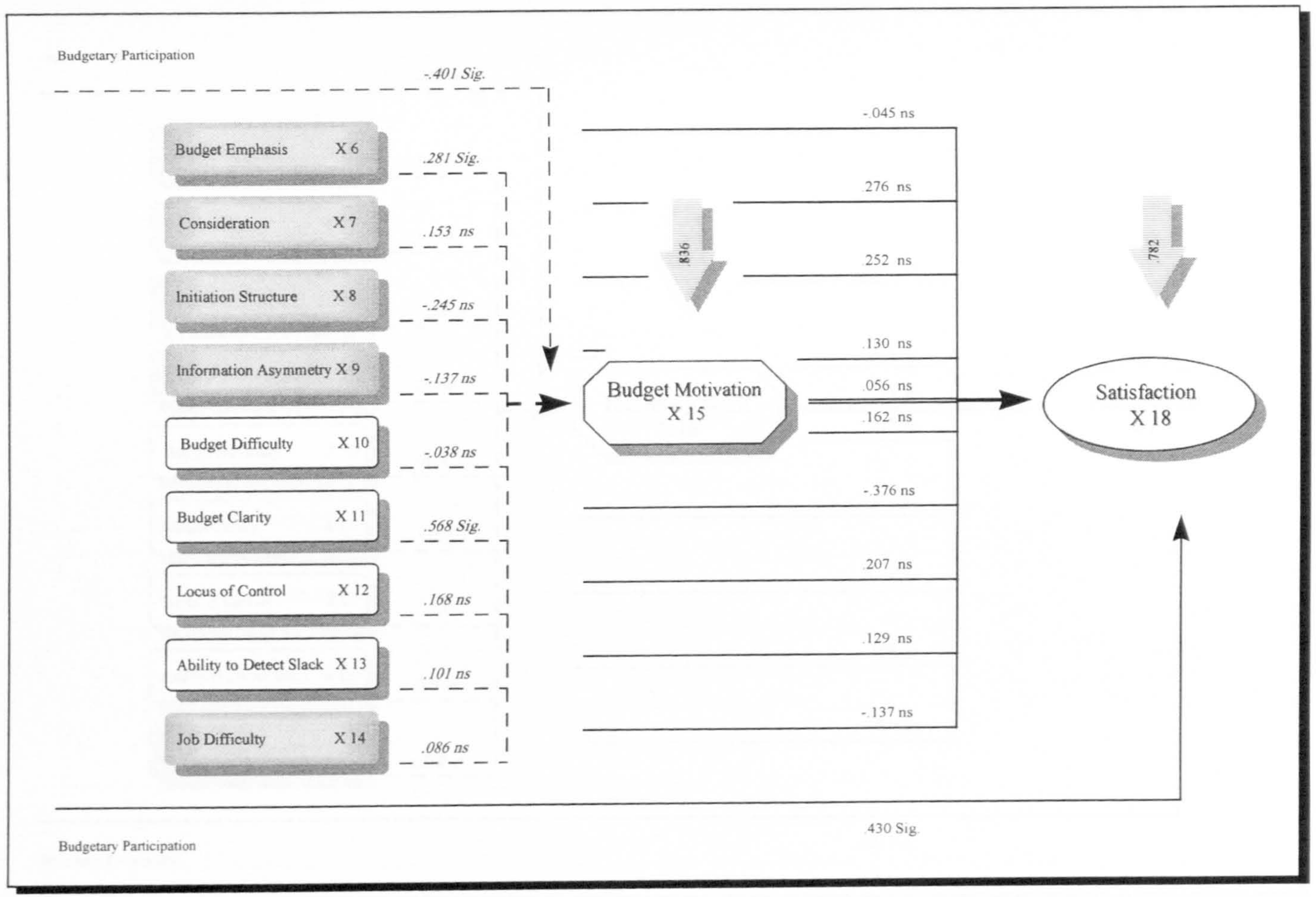


Figure 8-A-4

Sub-model (3)

Path contributions of budgetary participation on performance through intervening variables 1 and budgetary slack

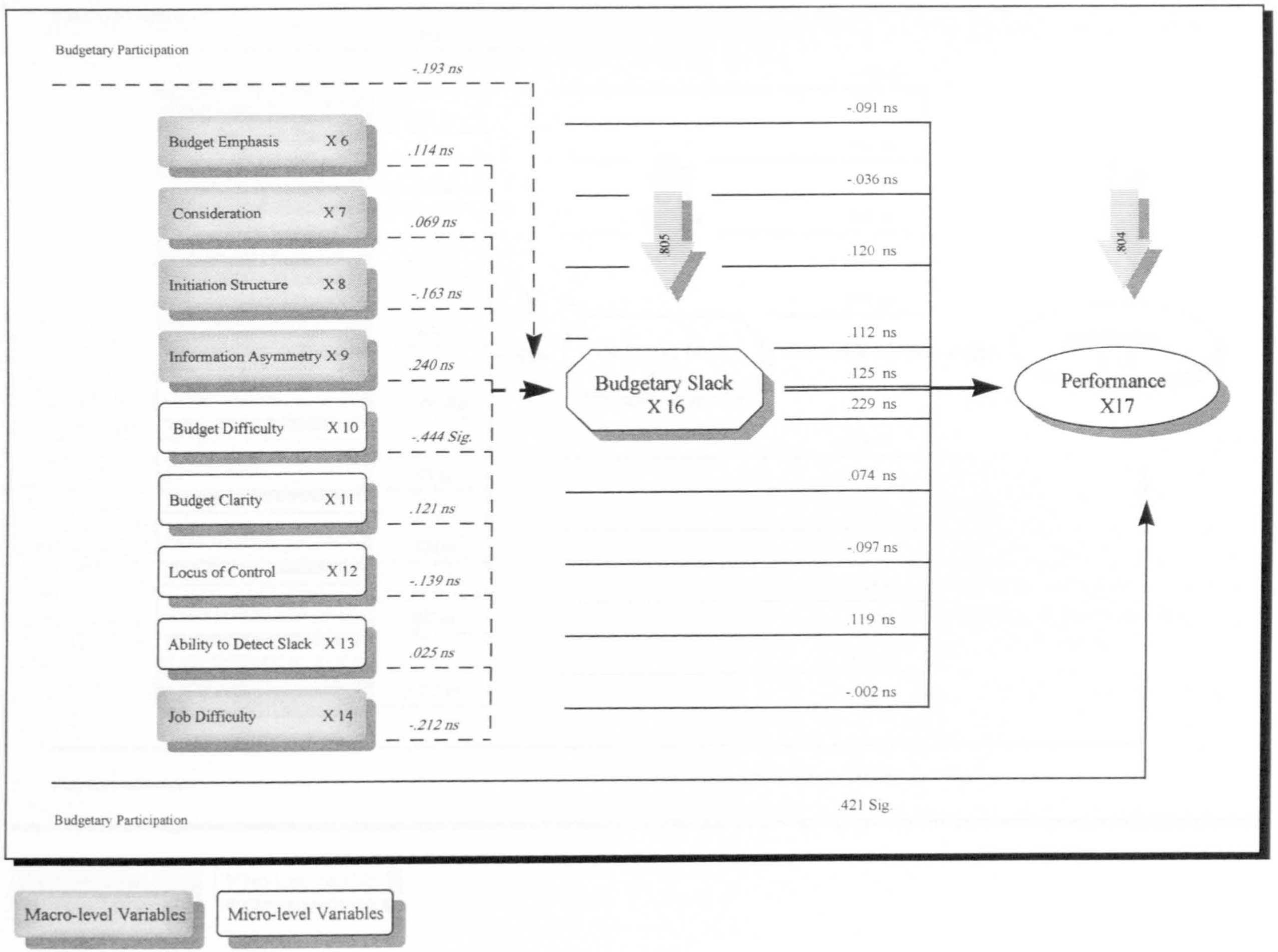


Figure 8-A-5

Sub-model (4)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

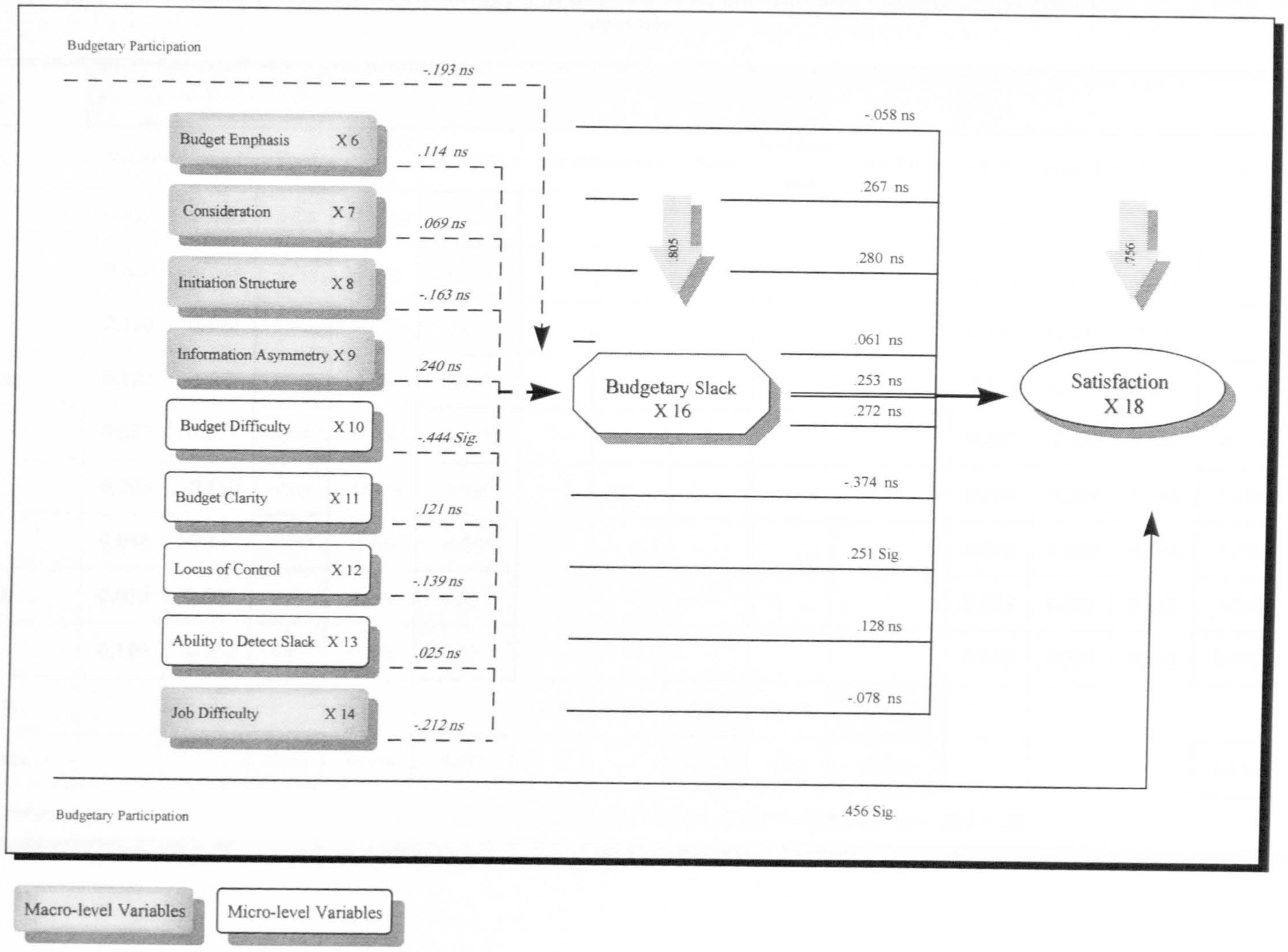


Table 8-A-1

Sub-model (1)

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and motivation

Direct Effects	0.544														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation		Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.432	-0.180	-0.078	-14.3%	0.466						0.432	0.281	0.368	0.045	8.2%	0.589
Consideration	0.222	-0.084	-0.019	-3.4%	0.525						0.222	0.153	0.368	0.012	2.3%	0.556
Initiation Struction	0.320	0.190	0.061	11.2%	0.605						0.320	-0.245	0.368	-0.029	-5.3%	0.515
Information Asymmetry	0.122	0.192	0.023	4.3%	0.567						0.122	-0.137	0.368	-0.006	-1.1%	0.538
Budget Difficulty	0.287	0.187	0.054	9.9%	0.598						0.287	-0.038	0.368	-0.004	-0.7%	0.540
Budget Clarity	0.709	-0.119	-0.084	-15.5%	0.460						0.709	0.568	0.368	0.148	27.2%	0.692
Locus of Control	0.046	-0.176	-0.008	-1.5%	0.536						0.046	0.168	0.368	0.003	0.5%	0.547
Ability to Detect Slack	0.078	0.086	0.007	1.2%	0.551						0.078	0.101	0.368	0.003	0.5%	0.547
Job Difficulty	0.110	-0.060	-0.007	-1.2%	0.537						0.110	0.086	0.368	0.003	0.6%	0.547
Budgetary Participation						-0.40	0.368	-0.148	-27%	0.396						
Total Indirect Effects			-0.051	-9.4%	0.493			-0.148	-27%	0.396				0.176	32.3%	0.720
Net Effect of the Three Routes	{(.051) + (-.148) + (.176)} = -.024 (-4.4%) + .544 = .52															

Table 8-A-2

Sub-model (2)

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and motivation

Direct Effects	0.43														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation		Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.432	-0.045	-0.019	-4.5%	0.411						0.432	0.281	0.056	0.007	1.6%	0.437
Consideration	0.222	0.276	0.061	14.2%	0.491						0.222	0.153	0.056	0.002	0.4%	0.432
Initiation Struction	0.320	0.252	0.081	18.8%	0.511						0.320	-0.245	0.056	-0.004	-1.0%	0.426
Information Asymmetry	0.122	0.130	0.016	3.7%	0.446						0.122	-0.137	0.056	-0.001	-0.2%	0.429
Budget Difficulty	0.287	0.162	0.046	10.8%	0.476						0.287	-0.038	0.056	-0.001	-0.1%	0.429
Budget Clarity	0.709	-0.376	-0.267	-62.0%	0.163						0.709	0.568	0.056	0.023	5.2%	0.453
Locus of Control	0.046	0.207	0.010	2.2%	0.440						0.046	0.168	0.056	0.0004	0.1%	0.430
Ability to Detect Slack	0.078	0.129	0.010	2.3%	0.440						0.078	0.101	0.056	0.0004	0.1%	0.430
Job Difficulty	0.110	-0.137	-0.015	-3.5%	0.415						0.110	0.086	0.056	0.001	0.1%	0.431
Budgetary Participation						-0.40	0.056	-0.022	-5%	0.408						
Total Indirect Effects			-0.077	-18.0%	0.353			-0.022	-5%	0.408				0.027	6.2%	0.457
Net Effect of the Three Routes	{(-.077) + (-.022) + (.026)} = -.073 (-16.9%) + .43 = .357															

Table 8-A-3

Sub-model (3)

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and budgetary slack

Direct Effects	0.421														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack		Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.432	-0.091	-0.039	-9.3%	0.382						0.432	0.114	0.125	0.006	1.5%	0.427
Consideration	0.222	-0.036	-0.008	-1.9%	0.413						0.222	0.069	0.125	0.002	0.5%	0.423
Initiation Struction	0.320	0.120	0.038	9.1%	0.459						0.320	-0.163	0.125	-0.007	-1.5%	0.414
Information Asymmetry	0.122	0.112	0.014	3.2%	0.435						0.122	0.240	0.125	0.004	0.9%	0.425
Budget Difficulty	0.287	0.229	0.066	15.6%	0.487						0.287	-0.444	0.125	-0.016	-3.8%	0.405
Budget Clarity	0.709	0.074	0.052	12.5%	0.473						0.709	0.121	0.125	0.011	2.5%	0.432
Locus of Control	0.046	-0.097	-0.004	-1.1%	0.417						0.046	-0.139	0.125	-0.001	-0.2%	0.420
Ability to Detect Slack	0.078	0.119	0.009	2.2%	0.430						0.078	0.025	0.125	0.0002	0.1%	0.421
Job Difficulty	0.110	-0.002	0.000	-0.1%	0.421						0.110	-0.212	0.125	-0.003	-0.7%	0.418
Budgetary Participation						-0.19	0.125	-0.024	-6%	0.397						
Total Indirect Effects			0.128	30.3%	0.549			-0.024	-6%	0.397				-0.003	-0.82%	0.418
Net Effect of the Three Routes	{(.128) + (-.024) + (-.003)} = .099 (23.5%) + .421 = .52															

Table 8-A-4

Sub-model (4)

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

Direct Effects	0.456															
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack		Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.432	-0.058	-0.025	-5.5%	0.431						0.432	0.114	0.253	0.012	2.7%	0.468
Consideration	0.222	0.267	0.059	13.0%	0.515						0.222	0.069	0.253	0.004	0.8%	0.460
Initiation Struction	0.320	0.280	0.090	19.6%	0.546						0.320	-0.163	0.253	-0.013	-2.9%	0.443
Information Asymmetry	0.122	0.061	0.007	1.6%	0.463						0.122	0.240	0.253	0.007	1.6%	0.463
Budget Difficulty	0.287	0.272	0.078	17.1%	0.534						0.287	-0.444	0.253	-0.032	-7.1%	0.424
Budget Clarity	0.709	-0.374	-0.265	-58.2%	0.191						0.709	0.121	0.253	0.022	4.8%	0.478
Locus of Control	0.046	0.251	0.012	2.5%	0.468						0.046	-0.139	0.253	-0.002	-0.4%	0.454
Ability to Detect Slack	0.078	0.128	0.010	2.2%	0.466						0.078	0.025	0.253	0.0005	0.1%	0.456
Job Difficulty	0.110	-0.078	-0.009	-1.9%	0.447						0.110	-0.212	0.253	-0.006	-1.3%	0.450
Budgetary Participation						-0.19	0.253	-0.049	-11%	0.407						
Total Indirect Effects			-0.043	-9.4%	0.378			-0.049	-11%	0.407				-0.007	-1.5%	0.449
Net Effect of the Three Routes	{(-.043) + (-.049) + (-.007)} = -.1 (-21.9%) + .456 = .356															

Table 8-A-5

Summary of the results of the moderating and intervening approaches

MACRO-LEVEL HYPOTHESES					
Number of hypotheses	Nature of the hypotheses	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-I.1	Organisation size and budgetary participation (+)	p.2.8	S 64	WS 46	S 64
H-I.2	Environment uncertainty and budgetary participation (+)	p.2.10	R 62	WR 46	R 62
H-I.3	Process automation and budgetary participation (+)	p.2.13	WS 50	WS 46	WS 50
H-I.4	Product standardisation and budgetary participation (-)	p.2.14	WS 50	WR 46	WS 50
H-I.5	Leadership style as a contingent role between BP and motivation (I.- &C.+)	p.2.18	WS 62	WR 48	WR 62
H-I.6	Initiation structure and budget emphasis (+)	p.2.18	WR 63	N/A	WR 63
H-I.7a	Budget emphasis as a contingent role between BP and performance (+)	p.2.25	WR 59	WR 48	WR 59
H-I.7b	Budget emphasis as a contingent role between BP and satisfaction (+)	p.2.25	WR 60	WS 48	WR 60
H-I.8	Budget emphasis as a contingent role between BP and motivation (+)	p.2.25	S 62	WS 48	WS 62
H-I.9a	Informat. asymmetry as a contingent role between BP and motivation	p.2.28	WS 62	WR 48	WS 62
H-I.9b	Informat. asymmetry as a contingent role between BP and slack (+)	p.2.28	S 62	WR 48	WS 62
H-I.10	Information asymmetry and organization size (+)	p.2.28	WS 64	N/A	WS 64
H-I.11	Job difficulty as a contingent role between BP and performance (+)	p.2.30	WR 58	WR 48	NS 58

MICRO-LEVEL HYPOTHESES					
Number of hypotheses	Nature of the hypotheses	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-II.1a	Budgetary Participation and performance (+)	p.3.7	S 59	S 48	S 59
H-II.1b	Budgetary Participation and satisfaction (+)	p.3.7	S 61	S 48	S 61
H-II.2	Managers and subordinates participation in budgetary process (+)	p.3.8	WR 33	N/A	WR 33
H-II.3a	Budget difficulty as a contingent role between BP and motivation (+)	p.3.10	WS 63	WR 48	S 63
H-II.3b	Budget difficulty as a contingent role between BP and slack (-)	p.3.10	WS 63	S 48	S 63
H-II.4a	Budget clarity as a contingent role between BP and performance (+)	p.3.11	WR 59	WR 48	WS 59
H-II.4b	Budget clarity as a contingent role between BP and satisfaction (+)	p.3.11	WR 61	WR 48	WS 61
H-II.5	Locus of control as a contingent role between BP and slack (I. - & E.+)	p.3.15	S 61	WS 48	WR 61
H-II.6	Budgetary participation and budget motivation (+)	p.3.18	WR 63	R 48	WR 63
H-II.7	Budget motivation as a contingent role between BP and performance (+)	p.3.19	S 58	R 48	NS 58
H-II.8	Budget motivation as a contingent role between BP and satisfaction (+)	p.3.19	WR 60	WR 48	WR 60
H-II.9	Budgetary Participation and budgetary slack (-)	p.3.22	WS 63	NS 48	WS 63
H-II.10	Aability to det. slack as a contingent role between BP and slack (-)	p.3.22	WS 59	WR 48	WS 59
H-II.11	Budgetary slack as a contingent role between BP and performance (-)	p.3.23	R 59	WR 48	WR 59
H-II.12	Budgetary slack as a contingent role between BP and satisfaction (+)	p.3.23	WR 60	WS 48	WR 60

S - Supported "statistically significant", and the sign in the expected direction
WS - Weakly supported "statistically insignificant", but the sign in the expected direction
N/A - Not applicable.
+ & - refer to the expected direction. Number below signs refer to number of cases

R - Rejected "statistically significant", but the sign in the unexpected direction
WR - Weakly rejected "statistically insignificant", but the sign in the unexpected direction
N/S - No sufficient evidence, this means coefficients are so close to zero (i.e. .0001) that would be misleading to attribute a definite sign to the coefficient.

Chapter Nine

Saudi Study

Inter-Correlation and the Moderating Approach

Section 1 - An Analysis of the Inter-correlation Matrix
Section 2 - An Analysis of the Moderating Approach

9- Section 1

9-1 An Analysis of the Inter-Correlation Matrix

{ The Saudi and Arab study }

This chapter will re-test the research hypotheses using samples of Saudi and Arab managers. Consistent with chapter seven, research hypotheses will be tested in two sections, the first uses correlation analysis to test a group of theses hypotheses, and the second uses multiple regression analysis to test the rest. It worth drawing the attention that this section will provide no comparison with the British and other studies as this will be discussed more fully in chapter eleven.

9-1-1 The Contingency Variables

9-1-1-1 Organisation Size. From tables 9-A-1 & 9-A-2 in the appendix of this chapter, we can find that organisation size had insignificant relationship with budgetary participation for both Saudi (n=40) and Arab samples (n=26). The correlation coefficients for both were in the anticipated direction. Correlation coefficient was a bit higher for the Arab sample, and if we consider the fact that the size of the sample limits this results, it is possible to conclude that H-I.1 (p.2.8) was supported for both samples.

9-1-1-2 Environment Uncertainty. The research hypothesised (H-I.2) that environment uncertainty has a positive relationship with the level to which managers are involved in setting their department budget. The results shown in table 9-A-1 & 9-A-2 indicate a strong rejection for this hypothesis for both samples. The researcher provided two possible explanations for this rejection, and they are discussed in chapter eleven.

9-1-1-3 Process Automation. Based on the literature review, this research hypothesised (H-I.3) that process automation has a positive relationship with the degree to which managers participate in budgetary process. The result shown in table 9-A-1 provided weak rejection for the Saudi sample (n=38) as the sign was opposite to H-I.3 though statistically insignificant. On the other hand, the result of the Arab sample shown in table 9-A-1 has strongly supported this hypotheses (n=16).

9-1-1-4 Product Standardisation. The inter-correlation matrixes in the appendix of this chapter show that product standardisation had insignificant relationship with budgetary participation for the Saudi (n=41) and Arab (n=16) samples. Although both results were statistically insignificant, their signs were opposite to H-I.4 (p.2.15). The result of the Arab sample is highly considerable than the Saudi one as the correlation coefficient was high (0.345) although the number of respondents were small. This result mean that the Arab functional managers' participation is high in organisation which their products are highly standardised.

9-1-2 Budgetary participation, Performance, and Satisfaction

Table 9-A-2 in the appendix of this chapter shows that budgetary participation was positively and significantly related to Arab managers' performance and satisfaction. These results were consistent with H-II.1a&b. On the other hand, from the results shown in the inter-correlation matrix in table 9-A-1, we can see that the Saudi results provided weak support to the research hypotheses because they were statistically insignificant (n=46 for performance & n=45 for satisfaction).

With reference to H-II.2 (p.3.7) which proposes that managers give their subordinates a high degree of participation in budgetary participation when those managers are highly involved in setting budgets. The results shown in tables 9-A-1 & 9-A-2 indicate that this proposition has been weakly rejected for both samples. The results of Saudi and Arab samples were insignificant and their signs were opposite to the research hypothesis.

9-1-3 Budgetary participation and moderating variables

This research hypothesised that when managers involved in setting their budget they will be highly motivated to achieve it. The results of Saudi and Arab samples were similar. Their signs were consistent with (H-II.6) though statistically insignificant. With reference to the effect of budgetary participation on budgetary slack, the result of both samples showed insignificant relationship between these two variables. But it worth

attracting attention to the fact that the sign of the Arab sample was consistent with H-II.9.

9-1-4 Other relationships

Hypothesis (H-I.6) stated that budget emphasis has a positive relationship with superiors' leadership style. When superiors are characterised as high initiation structure, they would stress on using budget emphasis as a style of evaluation. The result of the inter-correlation matrix for the Arab sample indicate that this hypothesis was strongly supported (n=38), whereas the Saudi result was opposite to H-I.6) though statistically insignificant (n=50). Again, possible explanation about this difference will take place in chapter eleven.

It was also hypothesised (H-I.10) that organisation size has a positive relationship with the degree of information asymmetry between managers and their superiors. The results, however, were insignificant for both Saudi and Arab samples, but the sign of the Arab sample was opposite to the research hypothesis.

9- Section 2

9-2 An Analysis of the Moderating Approach

{ The Saudi and Arab samples }

This section will test the moderating role of some variables in the way hypothesised in chapter five for Saudi and Arab samples. Consistent with chapter seven, the results of the hypotheses will be indicated in figures 9-A-1 & 9-A-2 in the appendix of this chapter. The results of running the necessary equations are indicated in appendix D at the end of the thesis. The following discussion explains the nature of the results in detail.

9-2-1 Budget Motivation

This research hypothesised that budget motivation has a positive contingent role between budgetary participation and both performance (H-II.7), and satisfaction (H-II.8). To test these hypotheses the researcher employed equations which were similar to 7.1 and 7.2 (p.7.6). The results are shown in tables A-D-1 & 2. From these tables we can find that budget motivation had insignificant moderating role between budgetary participation and both performance and satisfaction for Saudi sample (n=41) and the Arab one (n=30). However, the signs of the Saudi results were consistent with H-II.7 and opposite to H-II.8. At the same time the signs of the Arab results were opposite to both hypotheses. Chapter eleven will provide possible explanations for these results in detail.

9-2-2 Budgetary Slack

To test the moderating role of budgetary slack on the relationship between budgetary participation and both performance and satisfaction, equations similar to those 7.1 & 7.2 were employed. Substituting X_2 with budgetary slack instead of budget motivation. The results of those equations are shown in tables A-D-3 and 4. The results illustrated in those tables show that budgetary slack had insignificant moderating role between budgetary participation and performance for Saudis (n=45) and Arabs (n=32). The sign of Saudi sample, however, was opposite to H-II.11.

With reference to the effect of budgetary slack on managerial satisfaction (H-II.12), the results shown in table A-D-4 indicate insignificant role for this variable for both samples. The sign of the Arab sample was opposite to the expected direction.

9-2-3 Budget Emphasis

This research hypothesised that budget emphasis plays a positive contingent role between budgetary participation and performance (H-I.7a), satisfaction (H-I.7b), and motivation (H-I.8). To test the effect of budget emphasis on these three relationships for Saudi and Arab samples, six equations each of them was similar to equation 7.1 (chapter seven) were employed. The results of those six equations are illustrated tables A-D-5, 6, and 7.

The results shown in these tables indicate that budget emphasis had insignificant moderating role between budgetary participation and both performance and satisfaction for Saudi and Arab samples. The signs of both samples were opposite to expected direction, and thus we can conclude that H-I.7a&b were weakly rejected.

With reference to H-I.8, table A-D-7 shows that budget emphasis had a negative intervening role between budgetary participation and managers' motivation to achieve budgets for the Saudi sample at statistically insignificant level. On the other hand, the sign of the Arab sample was consistent with the research hypothesis though statistically insignificant. The result of the Saudi sample means that when both budgetary participation increases managers motivation when budget emphasis is low.

9-2-4 Leadership Style

H-I.5 stated that budgetary participation increases managers' motivation to achieve budget when their superiors have a leadership style characterised as low initiation structure or high consideration. The necessary equations were developed and run. The results are shown in table A-D-8 and 9. These tables show neither initiation structure nor consideration had significant moderating role affecting managers' motivation to achieve budgets in Saudi and Arab samples.

Initiation structure had a positive moderating role between budgetary participation and budget motivation for Saudi and Arab samples at a statistically insignificant level. These results were opposite to H-I.5 providing weak rejection to it.

9-2-5 Information Asymmetry

The moderating role of information asymmetry between budgetary participation and both budget motivation (H-I.9a) and budgetary slack (H-I.9b) was tested. As mentioned earlier (section 7-2-5), measuring information asymmetry included asking respondents who had more information. Scores below 23 mean that managers are in positions of having less information than superiors; scores above 25 mean that managers are in positions of having more information than their superiors; 24 indicated equality

First, the effect of information asymmetry on budgetary slack was tested. Then and in order to provide sufficient support to the hypotheses, answers were split into three groups. Group 1 for managers who have less than their superiors. Group 2 for managers who have more than their superiors, and group 3 for managers who have the same as their superiors have. This resulted 20 cases for group 1, 24 cases for group 2, and 3 cases for group 3 for Saudi sample. For the Arab sample the results were 9 cases for group 1. 24 cases for group 2, and 2 cases for group 3. Consistent with chapter seven, same procedures were followed. The effect of information asymmetry was tested using the whole sample, then same procedure was repeated for groups 1 & 2, but number 3 was excluded as they involved small number of cases. The necessary equations were developed and run, and their results are shown in tables A-D-10 to A-D-15 in appendix D at the end of the thesis.

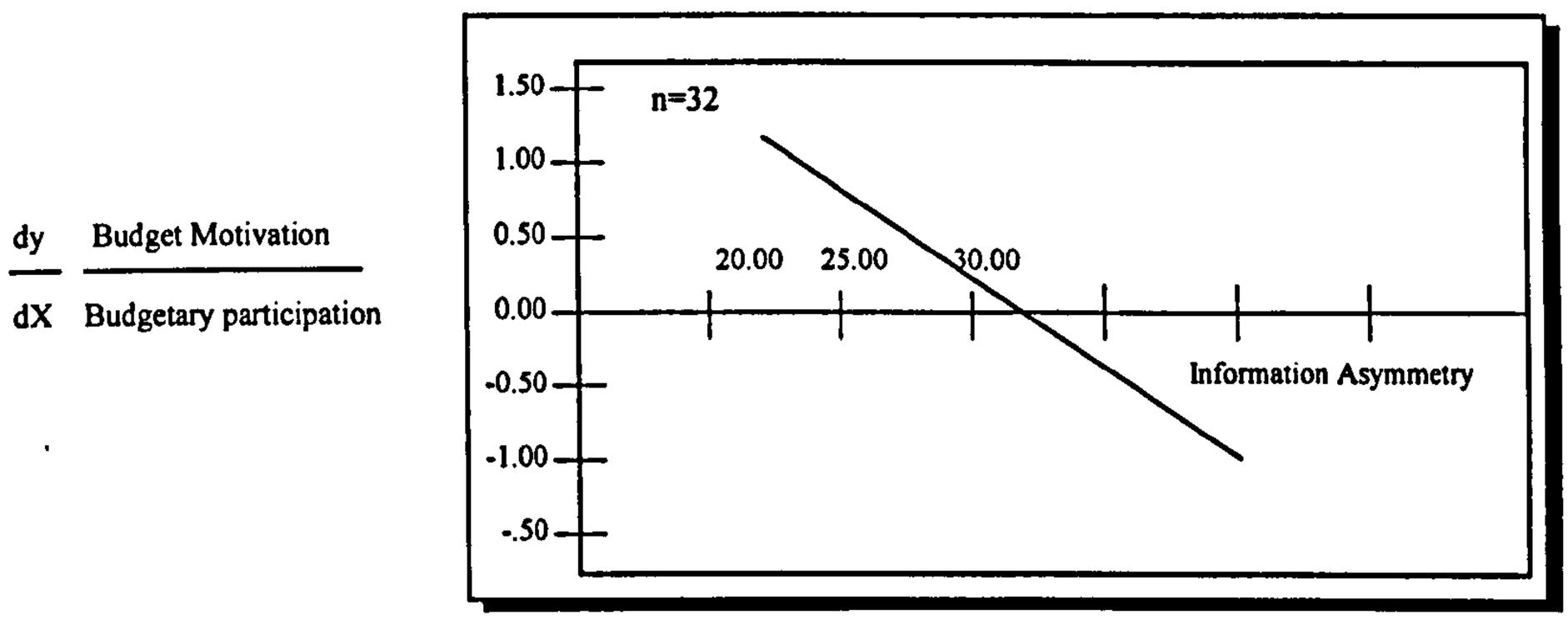
Table A-D-11 shows that information asymmetry had a positive moderating role between budgetary participation and managers' propensity to create slack though statistically insignificant. In other term, although the results for both Saudi and Arab samples were insignificant, they provided a weak support to H-I.9b.

With reference to the effect of information asymmetry as a moderating role between budgetary participation and managers' motivation to achieve budgets, table A-

D-10 indicates that the Saudi sample provided weak support to H-I.9a. On the other hand, the result of the Arab sample has strongly rejected this hypothesis. Table A-D-10 shows that budgetary participation and information asymmetry interacted with each other affecting managers' motivation. To provide an explanation about the nature of this interaction, same procedures applied in chapter 7 were repeated using equations similar to 7.3 & 7.4. This resulted X_2= 32.6. Figure 9.1 shows the result.

Figure 9.1

Moderating role of information asymmetry affecting budget motivation for Arab sample



The result shown in figure 9.1 indicates that when managers were in positions of having more work-related information than their superiors, their motivation to achieve budget decreased. This results was opposite to H-I.9a. A possible explanation for this result is when managers have more work-related information than their superiors, they may believe that they are in a position of holding more information about their budget and can control information embodied in the budget reports, and thus they can control the way they are evaluated.

9-2-6 Budget Difficulty

It was hypothesised (H-II.3) that budget difficulty plays moderating roles between budgetary participation and both motivation and slack. When budget' goals are difficult, high participation increases managers' motivation to achieve budgets, and decreases

their propensity to create slack. To test these moderating roles, same procedures in the previous analysis were followed, and the results are shown in table A-D-16 & 17.

The previous tables show that budget difficulty had insignificant moderating role affecting motivation and slack for Saudi and Arab samples. From these tables we can find that the signs were opposite to H-II.3a&b providing weak rejection for each.

9-2-7 Budget Clarity

This research hypothesised that budget clarity plays moderating roles between budgetary participation and both performance (H-II.4a) and satisfaction (H-II.4b). The results of Saudi and Arab samples are shown in tables A-D-18 & 19. From these tables we can see that the results were insignificant for both hypotheses. With reference to H-II.4b the signs of the two samples were in the expected direction. It worth drawing attention to the fact that the results of the path analysis, as will be mentioned later, has strongly supported this hypothesis. On the other hand, with respect to H-II.4a the sign of the Arab sample was in the unexpected direction. Again, possible explanations will take place in chapter eleven.

9-2-8 Locus of Control

It was hypothesised (H-II.5) that locus of control plays a moderating role between budgetary participation and managers' propensity to create slack. Necessary equations were developed and run for both samples, and their results are shown in table A-D-22. Although the results for both Saudi and Arab samples were insignificant, their signs lent weak support to the research hypothesis.

9-2-9 Ability of Superiors to Detect Slack

Hypothesis (H-II.10) stated that superiors ability to detect slack has a moderating role between budgetary participation and managers' propensity to create slack. Necessary equations were developed and run for both samples, and their results are shown in table A-D-23. From these tables we can see that the ability of managers' superiors to detect slack had insignificant moderating role between budgetary

participation and budgetary slack. The signs of the Arab sample was consistent with the research hypothesis, whereas the sign of the Saudi sample was opposite to it.

9-2-10 Job Difficulty

It was hypothesised (H-I.11) that job difficulty has a positive moderating role between budgetary participation and performance. To check this hypothesis for Saudi and Arab samples, necessary equations were developed and run, and their results are shown in table A-D-24. The results shown in this table indicate that job difficulty had insignificant moderating role for both samples. However, the sign of the Saudi sample was consistent with H-I.11, whereas the Arab one was opposite to it. A good explanation to the Arab sample was explored using the intervening approach in the chapter 10. It shows another perception to this hypothesis which was ignored in the previous works.

Summary and Conclusion

This chapter tested the research hypotheses using the moderating approach and samples from Saudi (locals) and Arab (non-locals) managers. These hypotheses as indicated in chapter five composed of twenty eight macro-and micro-level ones. Some of these hypotheses were tested by correlation analysis and the rest were tested by multiple regression. The results have showed that four hypotheses were strongly supported for the Arab sample yielding rate (14.2%), whereas nothing was strongly supported for the Saudi one. Twelve (42.8%) hypotheses for the Saudi sample and nine (32.14%) for the Arab were weakly supported, and that means although the results were statistically insignificant, the effect was in the direction anticipated suggesting that these hypotheses have some creditability. One (3.57%) hypothesis for the Saudi sample, and two (7.14%) hypotheses for the Arab were strongly rejected. Fifteen (53.5%) hypotheses for the Saudi sample and twelve (42.8) for the Arab were weakly rejected.

However, in order to avoid repetition, the end of chapter ten will provide a brief summary about the similarities and differences between the results of the moderating approach which were introduced in this chapter and those of the intervening approach which will be explained in the next chapter. Table 10-A-9 in the appendix of chapter ten also summarise these results.

Appendix of Chapter Nine

Table 9-A-1
Inter-correlation matrix of Saudi sample

	Pro. Autom	Pro. Standr	Envr. Uncr	Organ. Size	Bud. Partic.	Bud. Emph	Considerat.	Init. Struct	Infr. Asym	Bud. Diffc	Bud. Clart	Loc. Contr	Abil. Slack	Job Diffcul	Bud. Motiv	Bud. Slack	Satisfaction	Sub. Involv	Perormance
Pro. Autom		-0.573	0.001	0.183	-0.056	0.018	-0.087	0.142	0.264	-0.15	0.148	0.073	-0.24	-0.037	-0.2	0.023	0.046	-0.021	-0.082
Pro. Standr	38		0.249	0.212	0.043	-0.077	-0.091	-0.289	-0.243	0.191	-0.067	-0.09	-0.014	0.043	0.012	-0.099	-0.224	-0.257	-0.115
Envr. Uncr	34	36		0.154	-0.356	-0.004	-0.177	-0.451	0.026	0.382	-0.427	-0.459	-0.423	0.474	-0.035	0.168	-0.343	0.136	-0.249
Organ. Size	35	38	35		0.19	-0.051	-0.141	-0.251	0.094	-0.081	0.223	-0.143	0.119	-0.075	0.185	-0.014	-0.235	-0.193	-0.051
Bud. Partic.	38	41	43	40		0.007	-0.02	0.115	-0.087	-0.059	0.331	-0.019	0.14	-0.191	0.113	0.184	0.206	-0.205	0.085
Bud. Emph	38	41	44	41	50		0.156	-0.032	-0.026	0.206	0.063	0.338	0.178	-0.259	0.292	-0.224	0.532	0.017	-0.166
Considerat.	38	41	42	39	49	49		0.507	-0.353	-0.094	0.162	0.087	0.034	-0.041	-0.197	-0.201	0.431	0.212	0.015
Init. Struct	38	41	43	41	49	50	48		0.444	-0.004	0.019	-0.016	0.245	-0.108	-0.211	0.028	0.208	0.11	0.111
Infr. Asym	37	40	44	40	49	50	48	49		-0.199	0.166	0.049	0.06	0.071	0.014	0.1	0.041	0.186	0.191
Bud. Diffc	36	39	41	39	48	48	47	47	47		-0.314	0.005	-0.279	0.134	0.107	0.134	0.047	0.174	-0.222
Bud. Clart	37	40	43	40	48	49	47	49	48	46		0.511	0.226	-0.491	0.241	0.08	0.311	0.179	0.057
Loc. Contr	37	40	42	41	48	49	47	50	48	46	48		0.178	-0.467	0.332	-0.206	0.518	0.029	-0.009
Abil. Slack	38	41	43	41	49	50	48	50	49	47	49	49		-0.249	0.029	0.119	0.179	-0.033	0.041
Job Diffcul	38	41	44	41	50	51	49	45	50	48	49	49	50		-0.034	0.186	-0.441	-0.03	0.05
Bud. Motiv	33	36	41	36	45	46	44	49	46	43	44	44	45	46		0.08	-0.013	0.029	-0.005
Bud. Slack	38	41	43	41	48	49	47	49	48	46	48	48	49	49	44		-0.145	0.138	-0.112
Satisfaction	35	38	40	38	45	46	44	45	45	43	44	45	45	46	41	44		0.08	-0.055
Sub. Involv	21	23	28	21	29	29	28	29	29	28	29	28	29	29	27	29	26		-0.24
Perormance	35	38	40	38	46	47	45	47	46	45	46	46	47	47	42	46	42	28	

Sig.	0.05	0.01	0.1

Numbers below the shaded area refer to the number of cases

Table 9-A-2

Inter-correlation matrix of Arab sample

	Pro. Autom	Pro. Standr	Envr. Uncr	Organ. Size	Bud. Partic.	Bud. Emph	Considerat.	Init. Struct	Infr. Asym	Bud. Diffc	Bud. Clart	Loc. Contr	Abil. Slack	Job Diffcul	Bud. Motiv	Bud. Slack	Satisfaction	Sub. Involv	Perormance
Pro. Autom		0.283	-0.248	-0.041	0.642	0.201	-0.007	-0.109	0.335	0.162	0.494	0.385	-0.129	-0.312	0.268	-0.191	0.257	-0.766	0.242
Pro. Standr	11		-0.404	0.316	0.345	0.249	0.492	0.45	0.279	0.223	-0.05	0.463	0.115	-0.282	0.332	-0.471	0.04	0.494	0.49
Envr. Uncr	16	16		-0.359	-0.345	-0.433	-0.321	-0.463	-0.186	-0.162	-0.548	-0.728	-0.597	0.514	-0.145	0.072	-0.258	-0.005	-0.575
Organ. Size	13	15	29		0.218	0.19	0.161	-0.048	-0.23	-0.261	0.153	0.34	0.346	-0.335	0.291	-0.303	0.049	0.138	0.246
Bud. Partic.	16	16	35	26		0.378	0.402	0.309	-0.118	0.181	0.433	0.366	0.267	-0.501	0.181	-0.273	0.551	-0.148	0.473
Bud. Emph	16	16	37	28	36		0.382	0.503	0.116	0.208	0.347	0.415	0.549	-0.458	0.237	0.036	0.585	0.205	0.399
Considerat.	16	16	38	29	36	38		0.694	-0.158	0.189	0.335	0.448	0.442	-0.502	0.027	-0.1	0.738	0.129	0.392
Init. Struct	16	16	38	29	36	38	39		0.018	0.167	0.442	0.487	0.593	-0.518	0.237	-0.008	0.646	0.316	0.436
Infr. Asym	16	16	37	28	36	37	38	38		-0.106	0.158	0.127	0.047	0.055	0.078	0.261	-0.162	-0.129	0.109
Bud. Diffc	16	15	36	27	35	36	37	37	38		-0.208	-0.04	0.087	-0.019	-0.059	-0.083	-0.057	-0.09	0.245
Bud. Clart	16	16	37	28	35	37	38	38	38	37		0.502	0.382	-0.56	0.191	0.169	0.504	-0.17	0.451
Loc. Contr	16	16	36	28	35	36	37	37	37	36	36		0.378	-0.372	0.212	-0.239	0.467	0.185	0.44
Abil. Slack	15	15	35	27	34	35	36	36	37	36	36	36		-0.684	0.171	-0.149	0.56	0.136	0.334
Job Diffcul	16	15	35	27	35	36	36	36	36	36	35	36	35		-0.034	0.236	-0.666	0.003	-0.532
Bud. Motiv	15	15	33	25	33	33	34	34	34	33	33	33	32	32		-0.013	0.142	0.253	0.172
Bud. Slack	16	16	36	28	35	36	37	37	38	37	37	37	37	36	33		-0.089	-0.299	-0.138
Satisfaction	15	15	35	27	33	34	35	35	35	34	34	35	33	33	32	34		-0.015	0.449
Sub. Involv	8	9	22	17	21	22	22	22	22	21	22	20	21	20	19	21	21		-0.086
Perormance	16	15	36	27	34	36	37	37	36	35	36	35	34	34	32	35	33	21	

Sig.	0.05	0.01	0.1

Numbers below the shaded area refer to the number of cases

Figure 9-A-1

The results of testing the moderating approach

(Saudi sample)

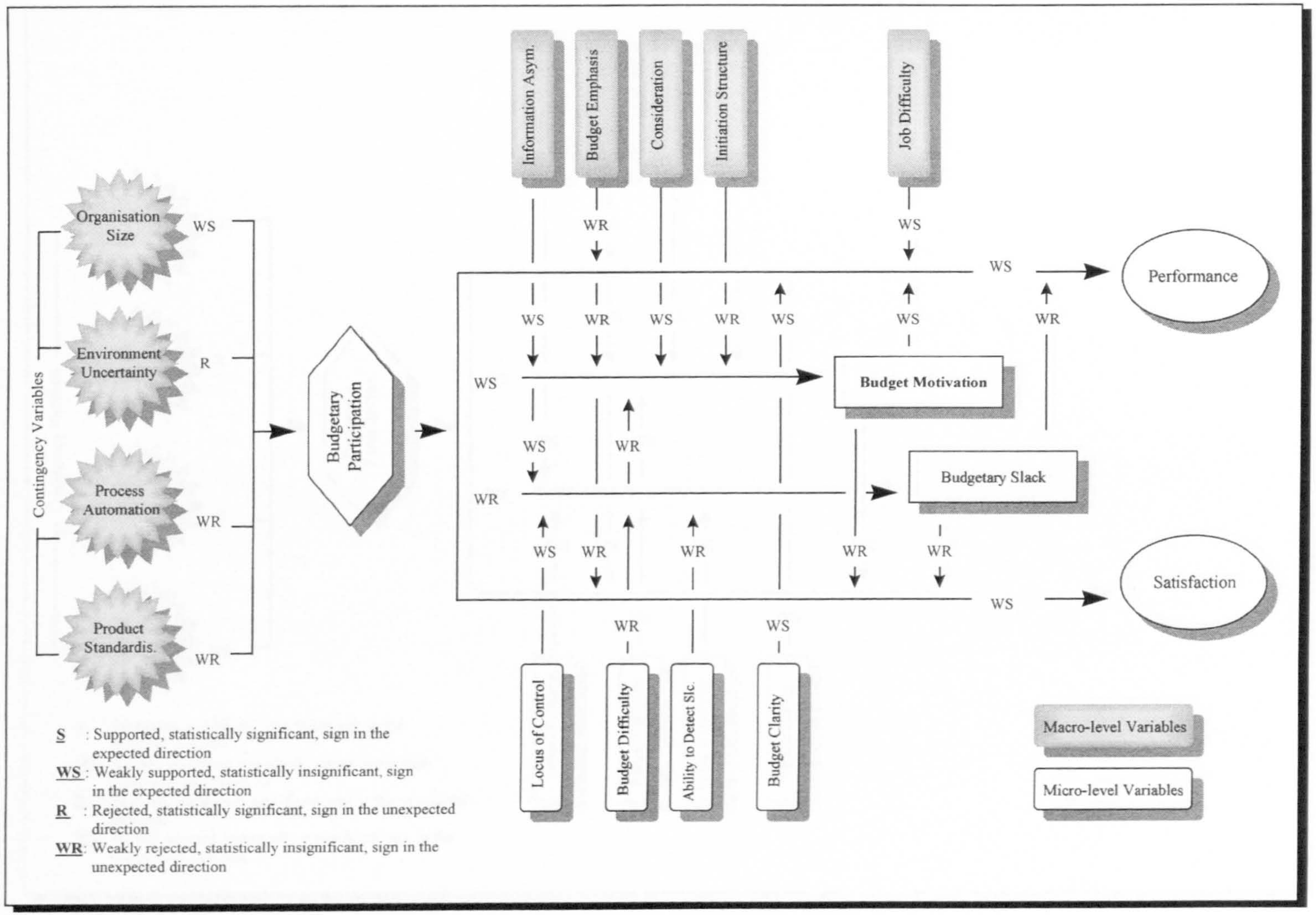
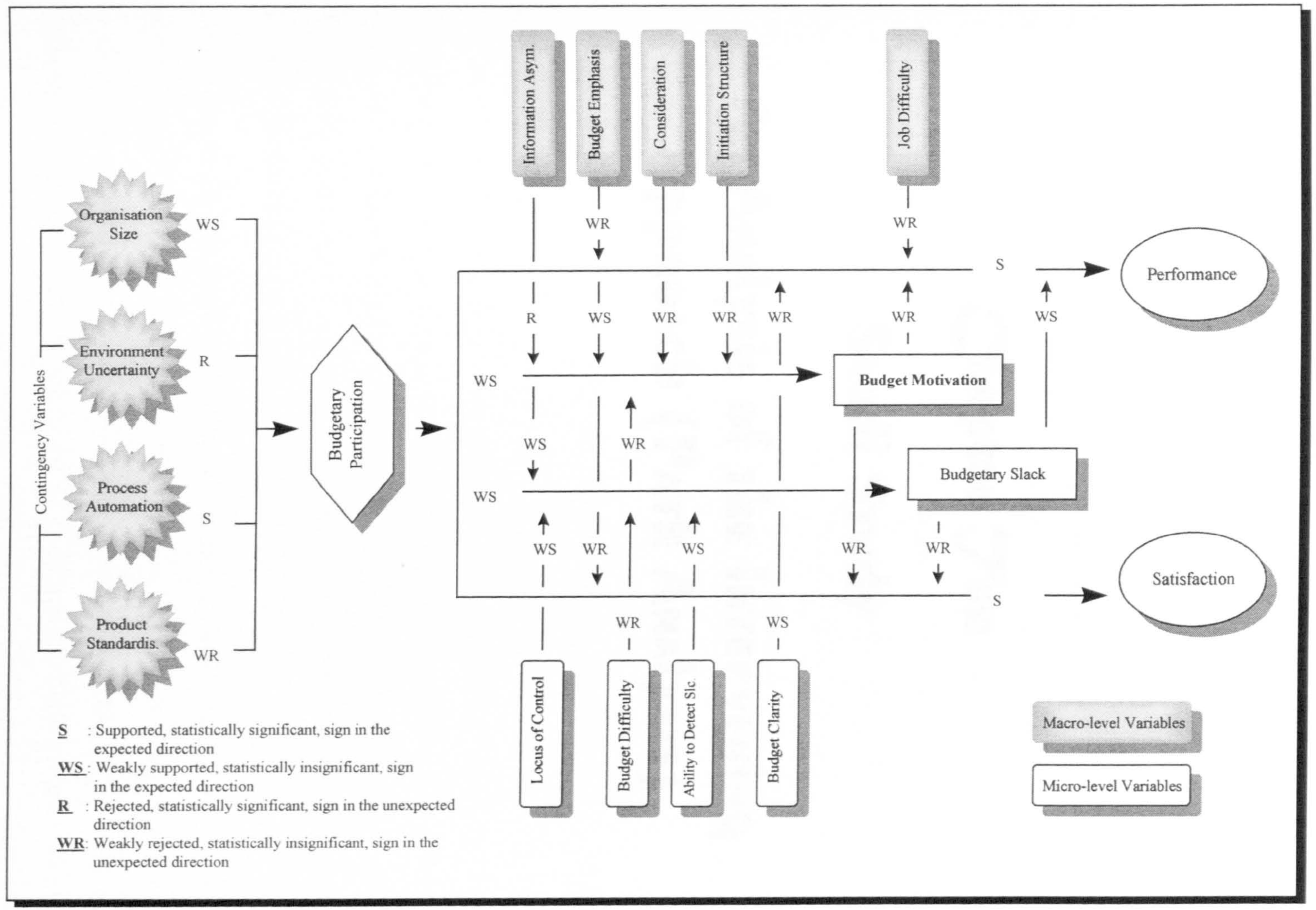


Figure 9-A-2

The results of testing the moderating approach

(Arab sample)



Chapter Ten

Saudi Study

An Analysis of the Intervening Approach (Path Analysis)

10.1

10- Chapter Ten
An Analysis of the Intervening Approach for Saudi and Arab samples

In this chapter, the proposed model will be tested using path analysis for Saudi and Arab samples. The mathematical equations necessary to test the proposed model were developed and run (see Appendix C). The path diagrams for these results are illustrated in figures 10-A-1 to 10-A- 10 in the appendix of this chapter. It worth drawing attention to the fact that as long as sample size are different in all variables, and in order to avoid bias in the analysis, the researcher has used the respondents who answered all variables involved in the four sub-models for Saudi and Arab samples. This resulted 32 cases for Saudi sample and 23 cases for the Arab sample. Again, consistent with the British sample, this chapter will re-test the research hypotheses also individually to provide sufficient support to the whole model (see page 8.2). The results are discussed below. Table 10-A-9 at the end of this chapter shows the results of the individual tests and the whole model.

10-1 The Effect of the Contingency Variables on the Level of Budgetary participation

The effects of the contingency variables on budgetary participation for Saudi and Arab samples are shown in figures 10-A-1 & 10-A-5 in the appendix to this chapter. The tests were conducted using multiple regression which included the four contingency variables as independents on budgetary participation. In chapter nine the effect of each variable was individually tested using correlation analysis.

The results of the Saudi sample were similar to those obtained using the inter-correlation matrix explained in chapter nine (see table 9-A-2 at the end of chapter nine). The effects were opposite to the research hypotheses with respect to environment uncertainty (H-I.2), process automation (H-I.3), and product standardisation (H-I.4). The result of organisation size (H-I.1) was also consistent with the inter-correlation matrix

though it was at a statistically insignificant level. However, the results of the individual test is shown in table 9-A-1.

The results of the Arab sample showed similar signs with those obtained from the inter-correlation matrix for environment uncertainty (H-I.2), process automation (H-I.3), and product standardisation (H-I.4). But for organisation size (H-I.1), the sign was opposite to the hypothesis. The number of respondents for this test was quite small (10). The researcher believes that the result of the inter-correlation (table 9-A-2) gives more reliable support.

10-2 Budgetary participation, performance and satisfaction

The results of the four sub-models of the Arab sample showed that budgetary participation had a positive significant contribution on both managers' performance and satisfaction (n=23). The results of the individual test were identical to those obtained in the inter-correlation matrix (table 10-A-2 in the appendix of this chapter) where budgetary participation had significant relationships with both performance (n=34) and satisfaction (n=33).

With reference to the Saudi sample, the results of the whole model (sub-models 1&3) showed that budgetary participation had an insignificant relationship with managers' performance (n=32). The direction of the effect, however, was opposite to H-II.1a. On the other hand, the individual test also failed to find a significant relationship for budgetary participation on managers performance though the direction of the effect was consistent with H-II.1a. The coefficients for both test were quite low and thus it is difficult to draw a conclusion from them.

10-3 Budgetary participation, motivation and budgetary slack

Figure 10-A-2 (sub-model 1) shows that budgetary participation had a positive relationship with managers' motivation to achieve budgets for the Saudi sample though the coefficient was at a statistically insignificant level. The results of the individual test were consistent with sub-model 1. These results were consistent with H-II.6. On the other hand, the effect of budgetary participation on slack was also insignificant for the

whole model and the individual test, and the direction of the effect for both was opposite H-II.9.

The results of the whole model for the Arab sample (figure 10-A-7) show that budgetary participation had a negative relationship with budget motivation at a statistically insignificant level. The individual test also failed to find a significant relationship with respect to this hypothesis. However, the direction of the effect was consistent with H-II.6. With reference to the effect of budgetary participation on budgetary slack, figure 10-A-9 (sub-model 3), and the individual test indicated that the results for both were consistent with H-II.9 though the coefficients were statistically insignificant.

10-4 Budget Motivation

It was proposed that budget motivation plays a positive contingent role between budgetary participation and both performance (H-II.7) and satisfaction (H-II.8). The translation of these hypotheses were discussed in the chapter eight (p.8.4). Figures 10-A-2 & 10-A-7 show the results of Saudi and Arab samples. In both samples budget motivation had an insignificant intervening role between the above mentioned relationships. The signs of both samples were opposite to H-II.7 & H-II.8 as they were negative. So, it is possible to say that the research hypotheses H-II.7 & H-II.8 were weakly rejected.

The results of the individual test were similar to the results of the whole model for both Saudi and Arab samples where budget motivation had an insignificant role between budgetary participation and both performance and satisfaction. However, the Arab results produced positive signs in the expected direction for both hypotheses but at a statistically insignificant level.

10-5 Budgetary Slack

It was hypothesised that when managers' propensity to create slack is high, high participation will decrease managerial performance (H-II.11) and increase job satisfaction (H-II.12). Again the translations of these hypotheses according to the

intervening approach were discussed in section 8-5. Figures 10-A-4 and 10-A-9 indicate that there were insignificant roles for budgetary slack on the above mentioned relationships for Saudi and Arab samples.

The results of the whole model (n=32) and the individual test (n=43) for the Saudi sample produced signs which were consistent with H-II.11 though they were at a statistically insignificant. On the other hand, only the result of the individual test for the Arab sample (n=32) produced signs which were consistent with the research hypothesis. With reference to H-II.12, the results of the whole model (n=32) and the individual test (n=43) produced signs which were opposite to the anticipated direction though the coefficients were statistically insignificant. The results of the whole model (n=23) and the individual test (n=31) for the Arab sample were similar as both showed insignificant intervening role for budgetary slack between budgetary participation and satisfaction. However, the signs of the individual test of the Arab sample were consistent with H-II.12.

10-6 Budget Emphasis

This research hypothesised that budget emphasis plays a positive contingent role between budgetary participation and performance (H-I.7a), satisfaction (H-I.7b), and managers' motivation to achieve budgets (H-I.8). The Saudi results as shown in figures 10-A-2 (sub-model 1) & 10-A-3 (sub-model 2) indicate that budget emphasis had an insignificant intervening role for all of these hypotheses. The direction of the effect was consistent with the research hypotheses. The results of the individual test for H-I.7a (n=46), H-I.7b (n=45), H-I.8 (n=45) were similar to those of the whole model as budget emphasis has insignificant intervening role for all three hypotheses. The direction of the effect in the individual test was consistent with the anticipated direction only for H-I.8.

The results of the Arab sample were similar to those of the Saudi sample as budget emphasis has an insignificant intervening role for all three hypotheses. The direction of the effect in the whole model was opposite to H-I.7a&b. On the other hand, the results of the whole model and the individual test were consistent with H-I.8, and it was significant in the individual test as shown in figure 10.1

Figure 10.1

The intervening role of budget emphasis between budgetary participation and satisfaction

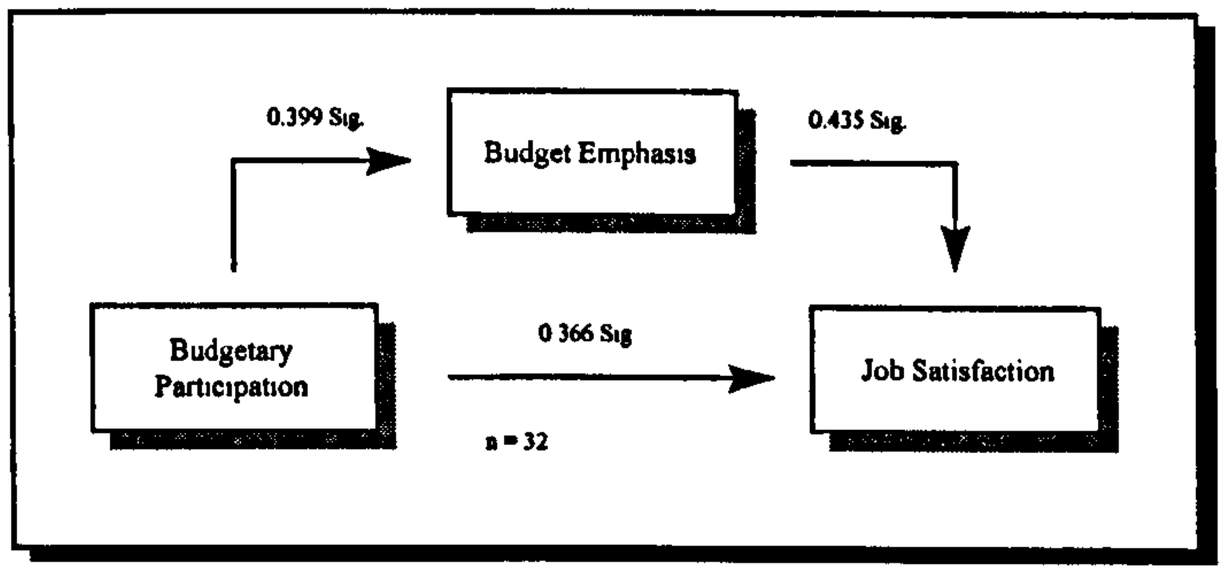


Figure 10.1 shows that although there was a direct relationship between budgetary participation and managers' satisfaction, there was also another indirect effect through style of evaluation. Managers' participation in budgetary process was associated positively with the style of evaluation (budget emphasis), and this style consequently increased their satisfaction. This result provided evidence to the previous results as will be discussed in chapter eleven.

10-7 Leadership Style

Hypothesis H-I.5, (p.2.19) stated that leadership style plays a contingent role between budgetary participation and managers motivation to achieve their budgets. The results shown in figures 10-A-1, 10-A-2, 10-A-6, and 10-A-7 indicate that both styles had insignificant intervening roles between budgetary participation and managers' motivation to achieve budgets for both samples.

The directions of the effect for both samples were opposite to H-I.5. The results of the individual test for Saudi (n=44) and Arab (n=32) samples were consistent with those of the whole model. On the other hand, it was hypothesised (H-I.6, p.2.19) that budget emphasis has a positive relationship with consideration and a negative one with initiation structure. It was not possible to test this relationship using the whole model, as indicated in an early section, as the proposed model did not consider any association between the first group of the intervening variables (see figure 5-A-3, p.5.17) as all proposed relationships were linear. It was possible to test this hypothesis using the

individual test. The individual test as mentioned before is conducted by correlation analysis which its results are shown in table 9-A-1 & 9-A-2.

10-8 Information Asymmetry

This research hypothesised that when managers are in a position of having more information than their superiors, high participation will increase their motivation (H-I.9a) and satisfaction (H-I.9b). Chapter eight has explained the translation of these hypotheses according to the intervening approach. From figures 10-A-1, 10-A-2, 10-A-6, 10-A-7 it can be seen that information asymmetry had an insignificant role in this relationship for both Saudi and Arab samples.

The direction of the effect in the whole model was consistent with the H-I.9a for the Saudi sample, whereas it was opposite to it for the Arab sample. For H-I.9b, the results of the Saudi sample for the whole model were opposite to the anticipated direction whereas they were consistent with the research hypothesis for the Arab sample. On the other hand, the results of the individual test for the Saudi and Arab samples were consistent with both H-I.9a & b though they were statistically insignificant. (see table 10-A-9 in the appendix of this chapter).

This research hypothesised (H-I.10) that information asymmetry is positively related with the size of the organisation. Again, it was not possible to test this proposition in the whole model, but the results of the individual test which used correlation analysis are shown in tables 9-A-1 & 9-A-2.

10-9 Budget Goal Difficulty

Hypothesis (H-II.3a) stated that budget difficulty has a positive contingent role between budgetary participation and managers' motivation to achieve their budget. The results of sub-model 1 and the individual test were similar as budget difficulty had an insignificant intervening role for Saudi and Arab samples. However, the directions of the effect in both tests were opposite to the research hypothesis. The directions of the effects effect were also consistent with the moderating approach which failed to find a

significant contingent role for budget goal difficulty between budgetary participation and motivation and the effect was also opposite to H-II.3a.

The results of hypothesis H-II.3b, which postulates that budget goal difficulty has a negative contingent role between budgetary participation and budgetary slack are shown in figures 10-A-4 & 10-A-7. From those figures it can be seen that budget goal difficulty had an insignificant intervening role between budgetary participation and managers' propensity to create slack. The signs of the Saudi and Arab results were opposite to H-I.9b and at a statistically insignificant level. The results of the individual test for both Saudi (n=46) and Arab (34) samples were consistent with those of the whole model.

10-10 Budget Goal Clarity

This research hypothesised that budget clarity has a positive contingent role between budgetary participation and both performance (H-II.4a) and satisfaction (H-II.4b). The results of the Arab samples in the whole model provided weak support for these propositions as the directions of the effect were consistent with the research hypotheses. The result of the whole model of the Saudi sample was consistent with H-II.4a, whereas it was opposite to H-II.4b. On the other hand, the results of the individual test provided weak support to H-II.4a for the Saudi sample (n=45), and strong support to the Arab sample as shown in the figure 10.2.

Figure 10-2

The intervening role of budget clarity between budgetary participation and performance for Arab sample

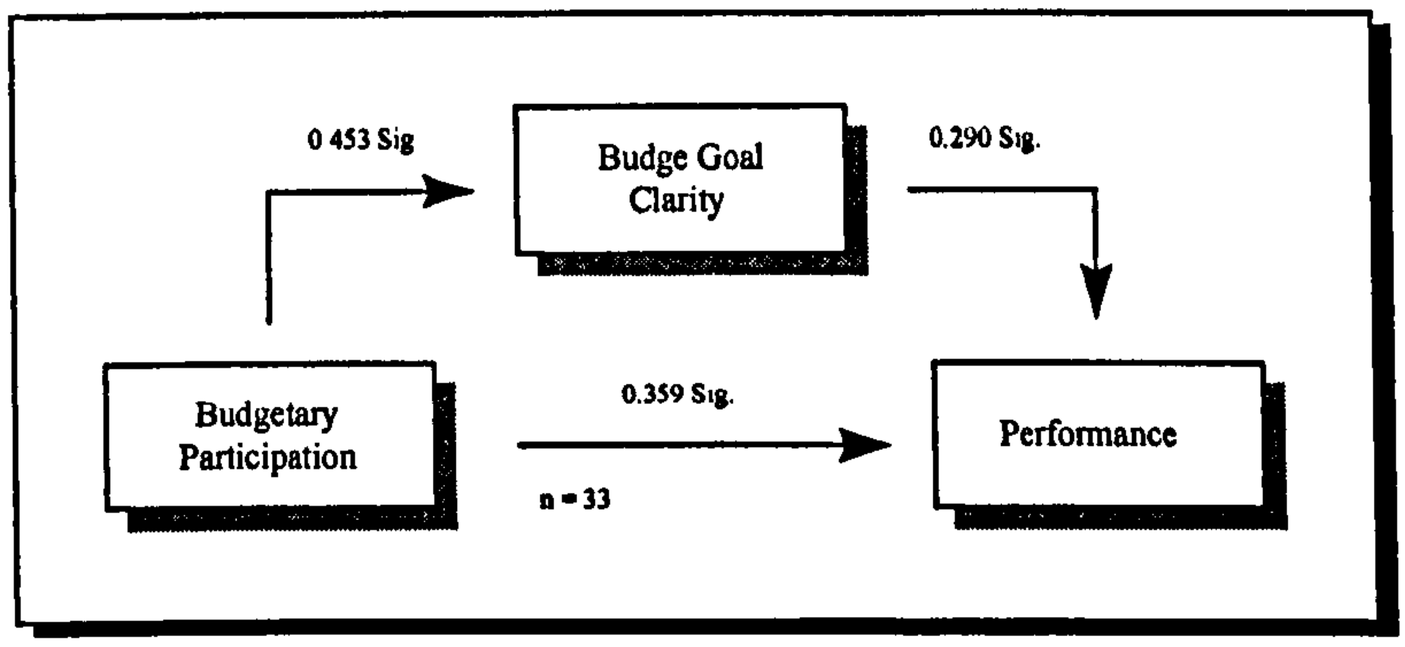


Figure 10.2 shows that budgetary participation increases budget goal clarity which in turn increases managerial performance. The results of the individual tests for H-II.4b for both Saudi and Arab samples provided strong support in the anticipated direction as shown in figure 10.3

Figure 10-3

The intervening role of budget clarity between budgetary participation and satisfaction for Saudi and Arab samples

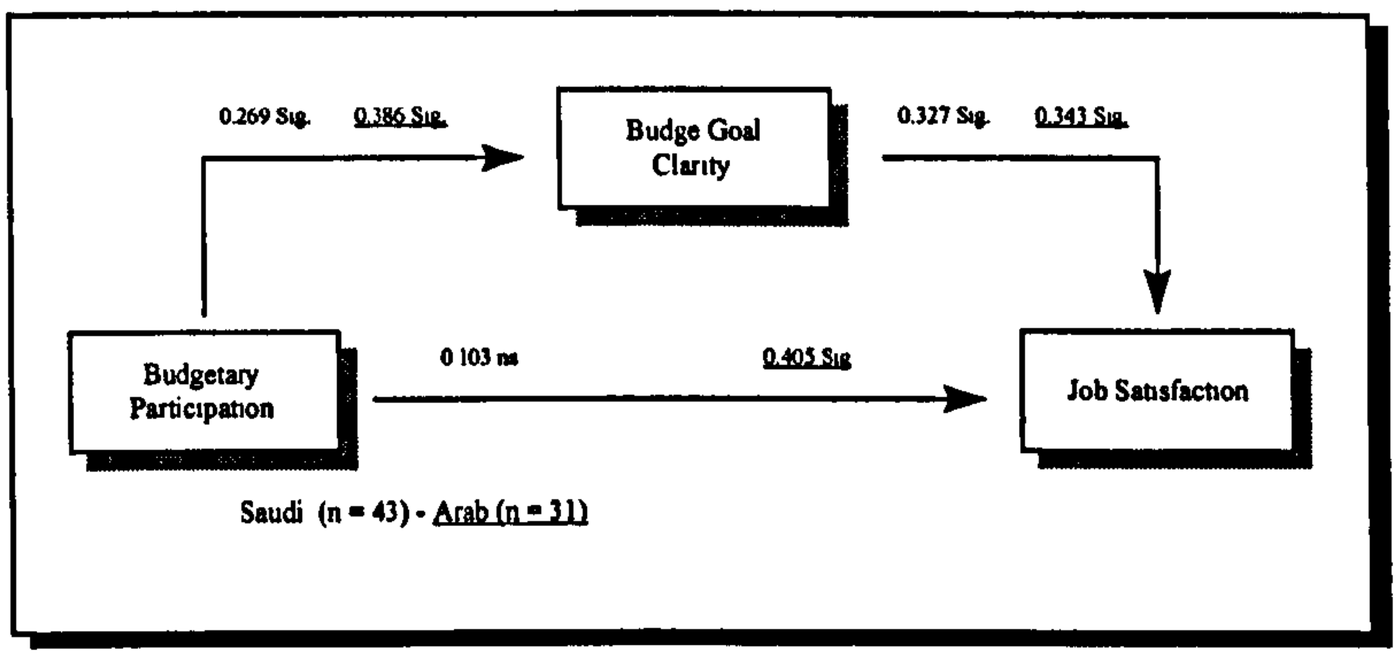


Figure 10.3 shows that high participation increases budget goal clarity for both Saudi and Arab samples, which consequently increased job satisfaction. These results were also consistent with the results of the moderating approach (see table 10-A-9).

10-11 Locus of Control

It was hypothesised (H-II.5) that locus of control has a contingent role on managers' propensity to create slack. In other words, "internal managers" have low propensity to create slack when they perceive high degree of participation in the budgetary process.

The results shown in figures 10-A-1, 10-A-4, 10-A-6, and 10-A-9 in the appendix of this chapter indicate that this variable (locus of control) had a negative intervening role between budgetary participation and managers' propensity to create slack for both samples, and it was insignificant for the Saudi sample but significant for the Arab one. The direction of the effect for both samples was consistent with H-II.5. The results of the individual test for both Saudi (n=47) and Arab (n=34) samples were consistent with those of the whole model and the directions of the effect were also consistent with H-

II.5). A possible explanation for these results is that "internals" managers perceive a high degree of participation which affects their propensity to create slack negatively. However, chapter eleven will discuss this point further.

10-12 Superiors' ability to Detect Slack

Hypothesis (H-II.10) stated that the ability of managers' superiors to detect slack has a contingent role between budgetary participation and budgetary slack. From the results of sub-model 3 shown in figures 10-A-1, 10-A-4, 10-A-6, 10-A-9 we can see that there was an insignificant role for this variable. The signs were opposite to H-II.10 for both samples. The direction of the individual test was similar to sub-model 3 for the Saudi sample (n=48), whereas the direction of the Arab sample was consistent with H-II.10 though it was statistically insignificant.

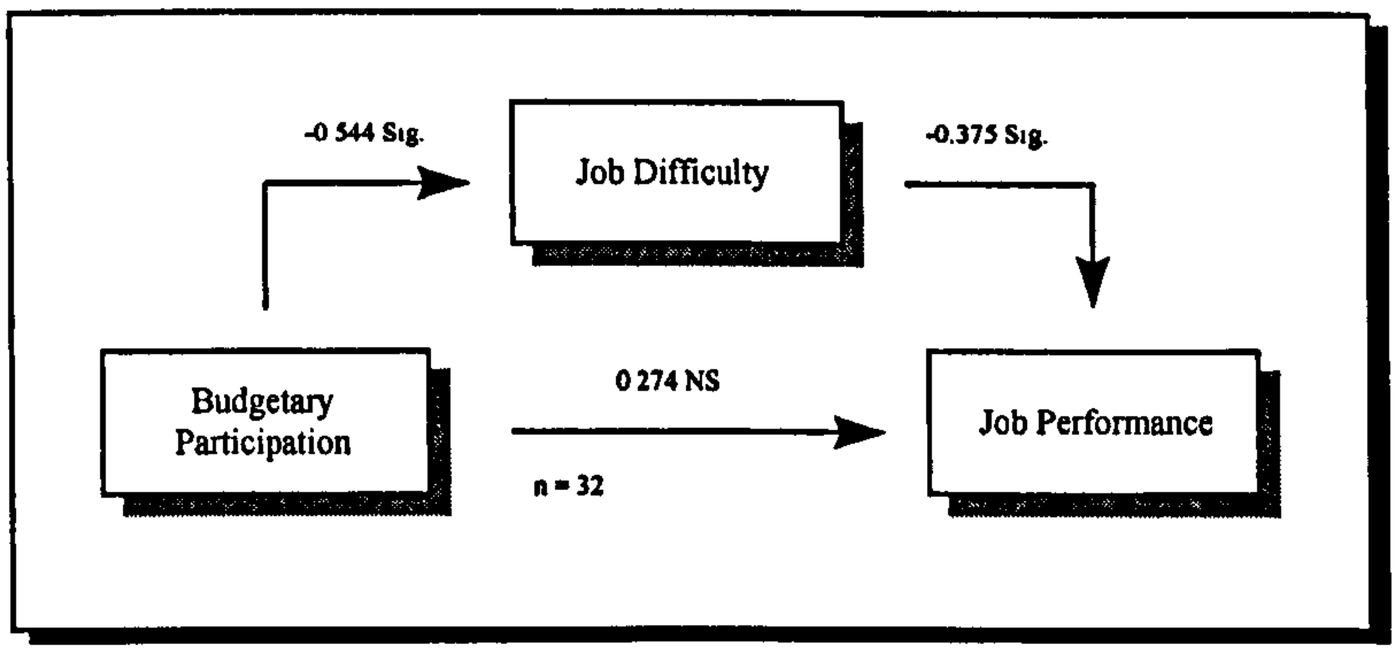
10-13 Job Difficulty

It was hypothesised (H-I.11) that job difficulty has a contingent role between budgetary participation and managerial performance. The results of sub-model 1 & 3 for both Saudi and Arab samples indicate that job difficulty had an insignificant intervening role between budgetary participation and managerial performance, and the signs of the direction were opposite to H-I.11.

On the other hand the results of the individual test were similar to sub-models 1 & 3 for both Saudi and Arab samples where the signs were opposite to H-I.11. But the result of the Arab sample was significant though it was opposite to the anticipated direction as shown in the figure 10.4.

Figure 10-4

The intervening role of job difficulty between budgetary participation and performance for Arab sample



The result shown in figure 10.4 indicates that budgetary participation reduced managers' job difficulty, which consequently increased their performance. This result revealed that budgetary participation increased performance when job difficulty was low.

However, the previous discussion has provided evidence that some hypotheses were supported either strongly or weakly, and the rest were rejected also either strongly or weakly. The following section will summarise the results of Saudi and Arab samples for both approaches.

10.11

Summary and Conclusion

Research hypotheses were tested on two samples consisting of Saudi (locals) and Arab (non-locals) managers using the two analytical approaches adopted in this study. Chapter nine discussed the results of the moderating approach, and this chapter re-tested the hypotheses using the intervening approach. These complementary approaches provided evidence about the robustness of the conclusion of each hypothesis. Again, consistent with the British sample, as the size of the sample used in this study limited its results, and some equations in the whole model involved a large number of variables, therefore, an individual test for each hypothesis was also done using path analysis.

The results explained in chapter nine (moderating model) and eight (intervening model) provided evidence that some hypotheses supported the literature whereas others contradict them (see chapter eleven for more details). Table 10-A-9, however, summarises the results of both approaches for the two samples. Again, this section summarises the similarities and dissimilarities between the results of the two approaches. No explanations for each hypothesis will be considered here, as this will discussed fully in chapter eleven. From this table we can classify the results of the hypotheses using the two approaches into four groups according to the statistical significance of the tests as follows:

First group: Hypotheses which were either supported or rejected strongly using the two approaches. The following hypotheses fell into this group: the positive impact of process automation on budgetary participation for the Arab sample (H-I.3), the positive impact of initiation structure on budget emphasis for the Arab sample (H-I.6), the positive effect of budgetary participation on managerial performance and job satisfaction for the Arab sample (H-II.1a&b). On the other hand, environment uncertainty was strongly rejected in the two approaches for both Saudi and Arab samples.

Second group: Hypotheses which were either weakly supported or weakly rejected by both approaches. Neither of the results were significant at $p \leq 0.1$. Thus the results of the

analysis, while not providing conclusive evidence are at least suggestive that the hypotheses have some credibility. Again many hypotheses fell into this group. For example, the positive impact of organisation size on budgetary participation (H-I.1), the effect of information asymmetry between budgetary participation and motivation (H-I.9a) for the Saudi sample, the effect of budgetary participation on performance (H-II.1a), satisfaction (H-II.1b), and motivation (H-II.6) for the Saudi sample, the effect of budget clarity between budgetary participation and performance (H-II.4a), the effect of budgetary participation on slack (H-II.9) for the Arab sample. All of those hypotheses were weakly supported in the two approaches. On the other hand, the effect of process automation on budgetary participation (H-I.3) for the Arab sample, the effect of budget difficulty between budgetary participation and slack (H-II.3b). All of theses hypotheses were weakly rejected in the two approaches.

Third group: Hypotheses which were strongly supported or rejected by one approach and weakly by the other. Hypotheses which fell into this groups are: the effect of budget emphasis between budgetary participation and satisfaction for the Arab sample (H-I.7b), the effect of budgetary participation on satisfaction for the Saudi sample (H-II.1b), the effect of budget clarity between budgetary participation and performance (H-II.4a) and on satisfaction (H-II.4b). All of theses hypotheses were strongly supported by an approach and weakly by another. On the other hand, the effect of budget emphasis between budgetary participation and performance for the Arab sample (H-I.7a), the effect of information asymmetry between budgetary participation and motivation (H-.9a). These two hypotheses were rejected strongly by an approach and weakly by the other.

Fourth group: In several occasions the results of one approach contradicted those computed from the other, but neither approaches were statistically significant. The sample failed to cast any light on theses hypotheses. It was difficult to draw conclusion about the role budget emphasis between budgetary participation and satisfaction (H-I.7b) for the Saudi sample, and motivation (H-I.8) for both Saudi and Arab samples. However, chapter eleven will provide more explanation about the result of each hypothesis in detail.

Appendix of Chapter Ten

Figure 10-A-1 (Saudi sample)

Path contributions of contingency variables on budgetary participation
and path contributions of budgetary participation on intervening variables (1)

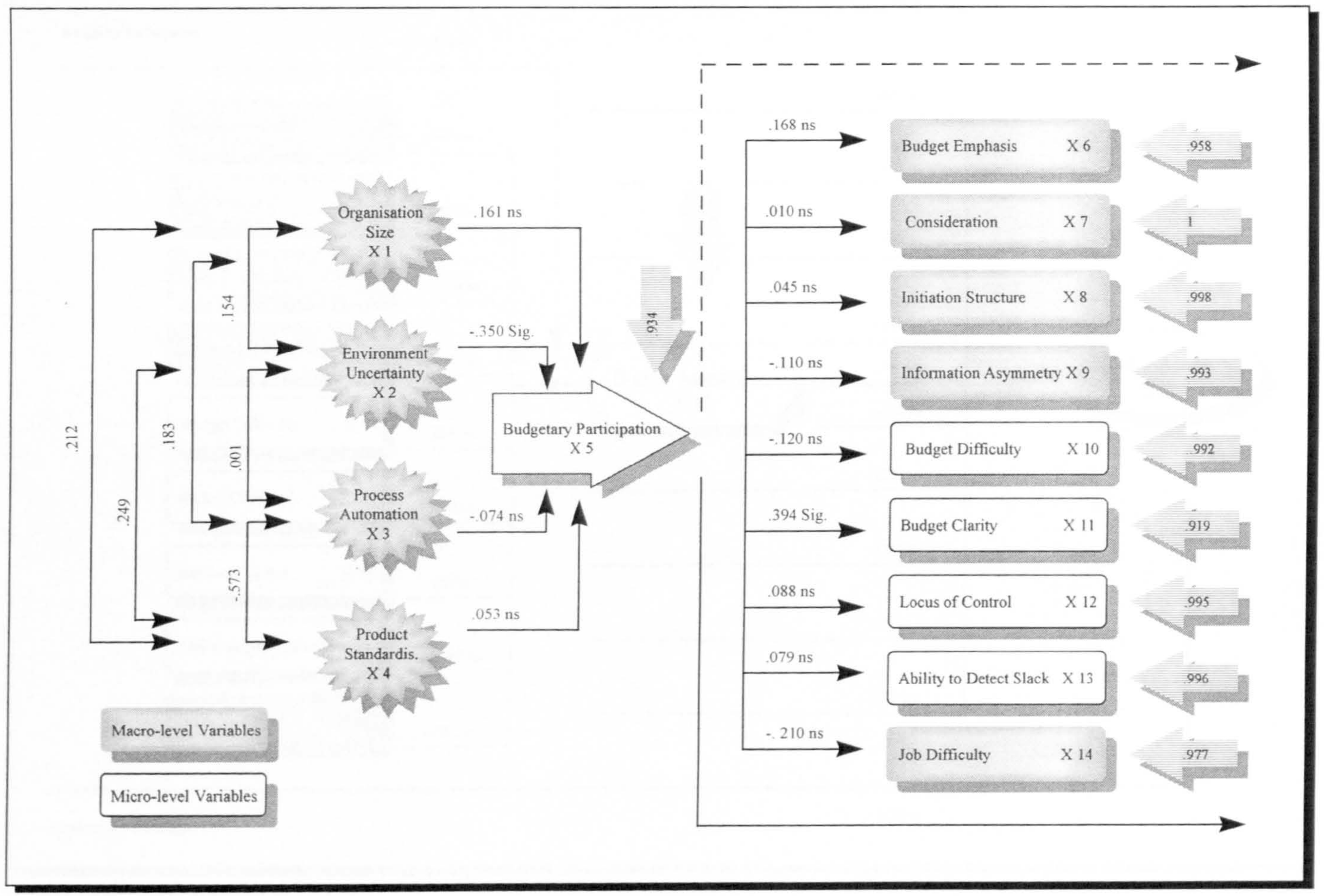


Figure 10-A-2

Sub-model (1)

Path contributions of budgetary participation on performance through intervening variables 1 and budget motivation

Saudi sample

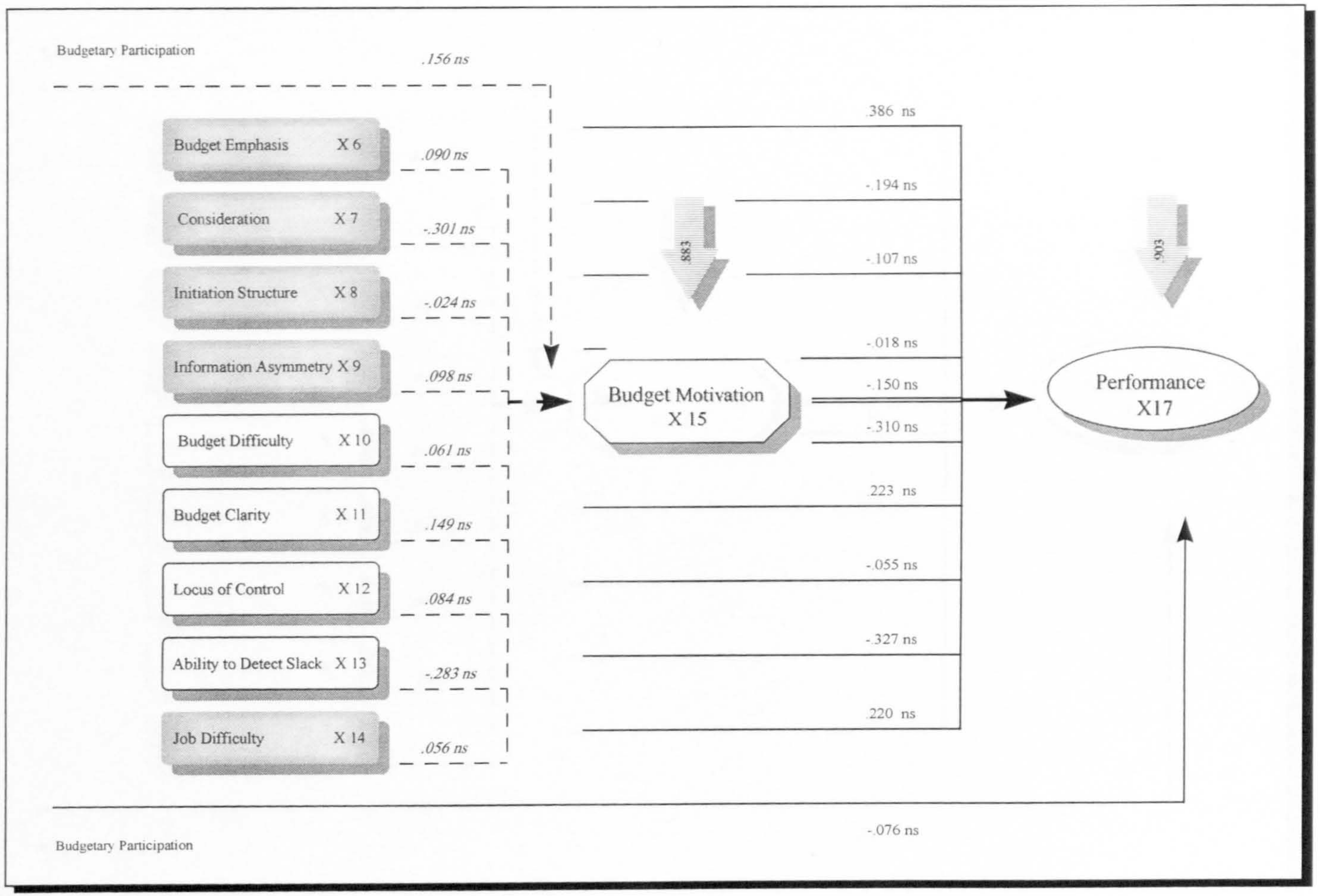


Figure 10-A-3

Sub-model (2)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budget motivation

Saudi sample

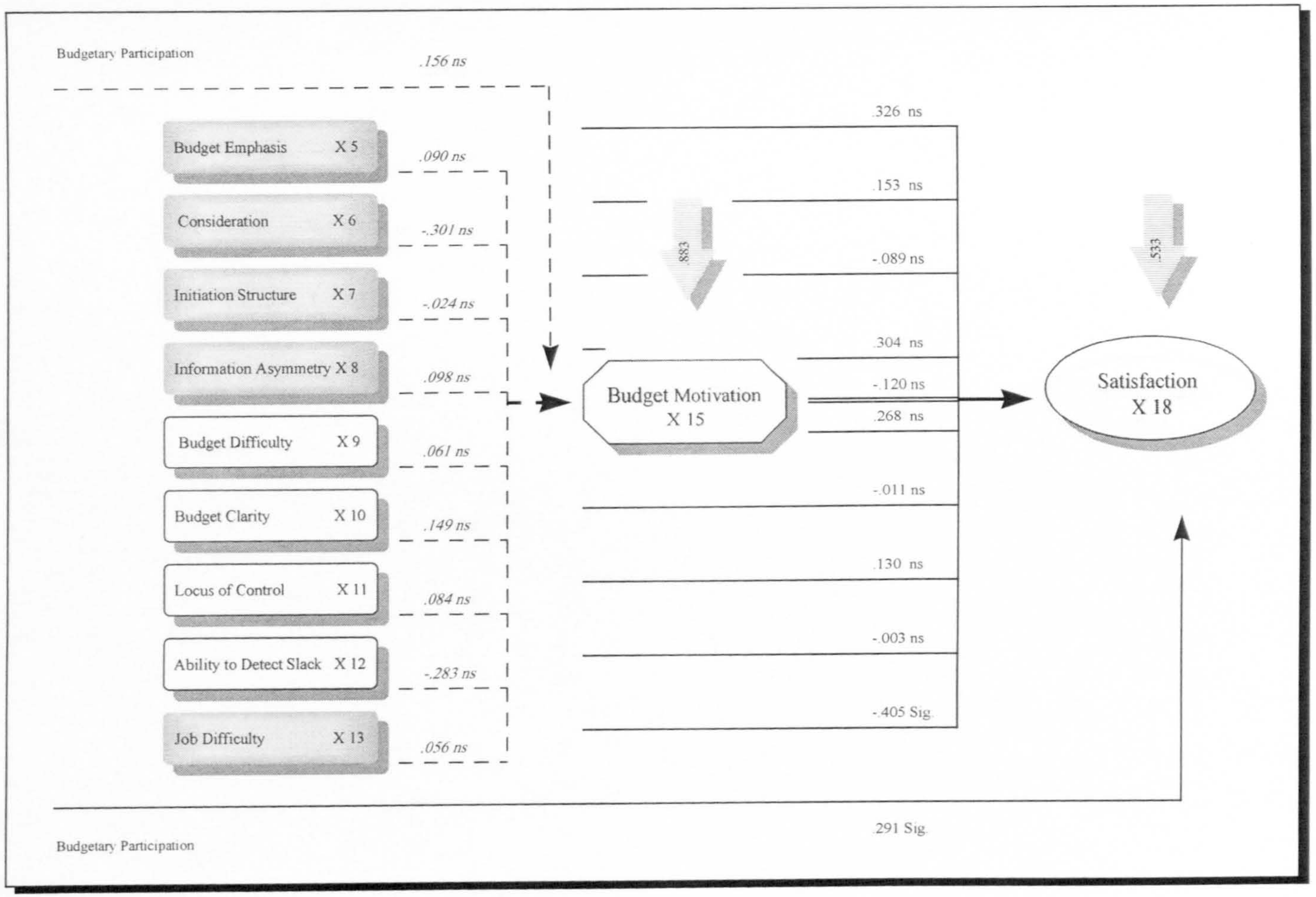


Figure 10-A-4

Sub-model (3)

Path contributions of budgetary participation on performance through intervening variables 1 and budgetary slack

Saudi sample

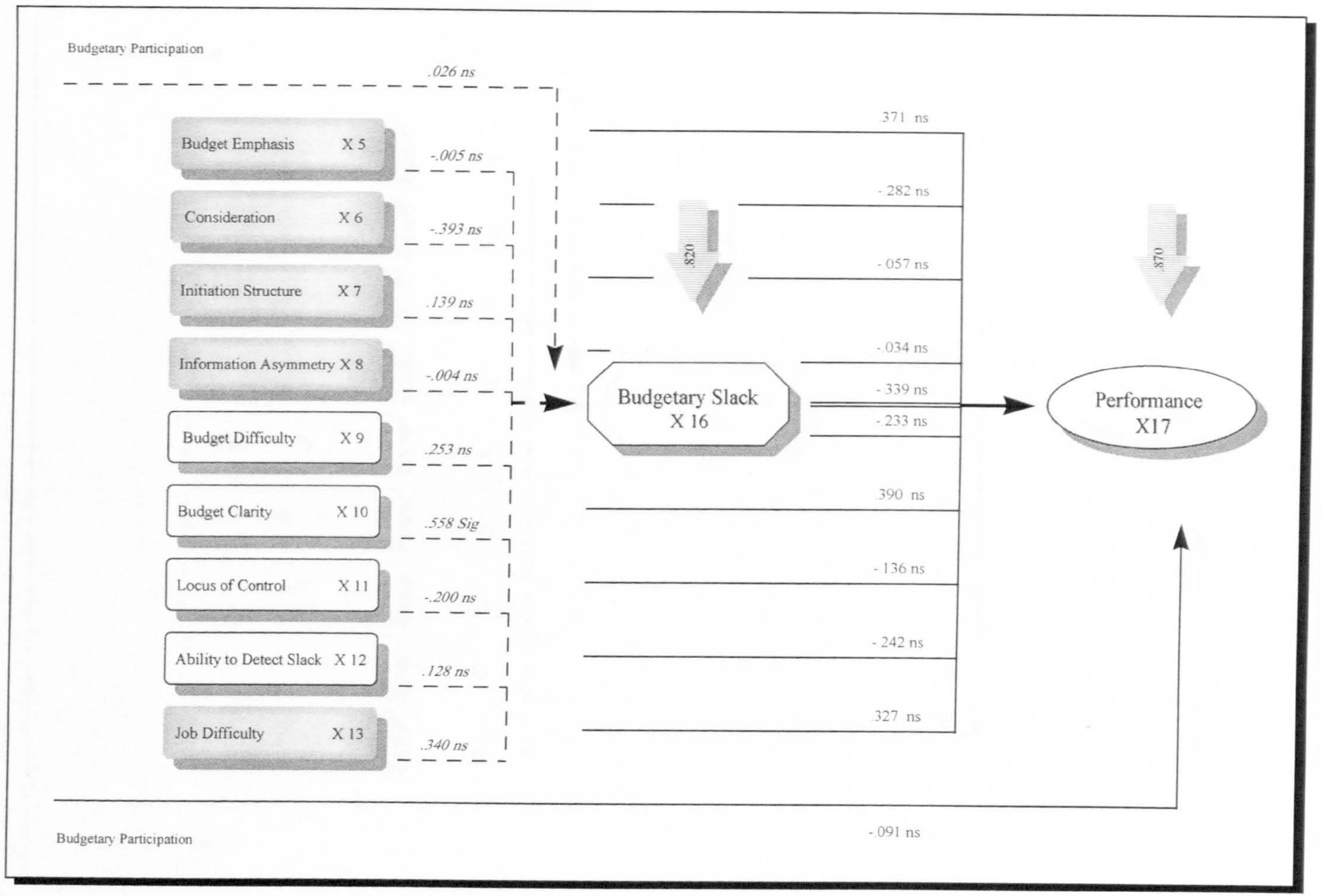


Figure 10-A-5

Sub-model (4)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

Saudi sample

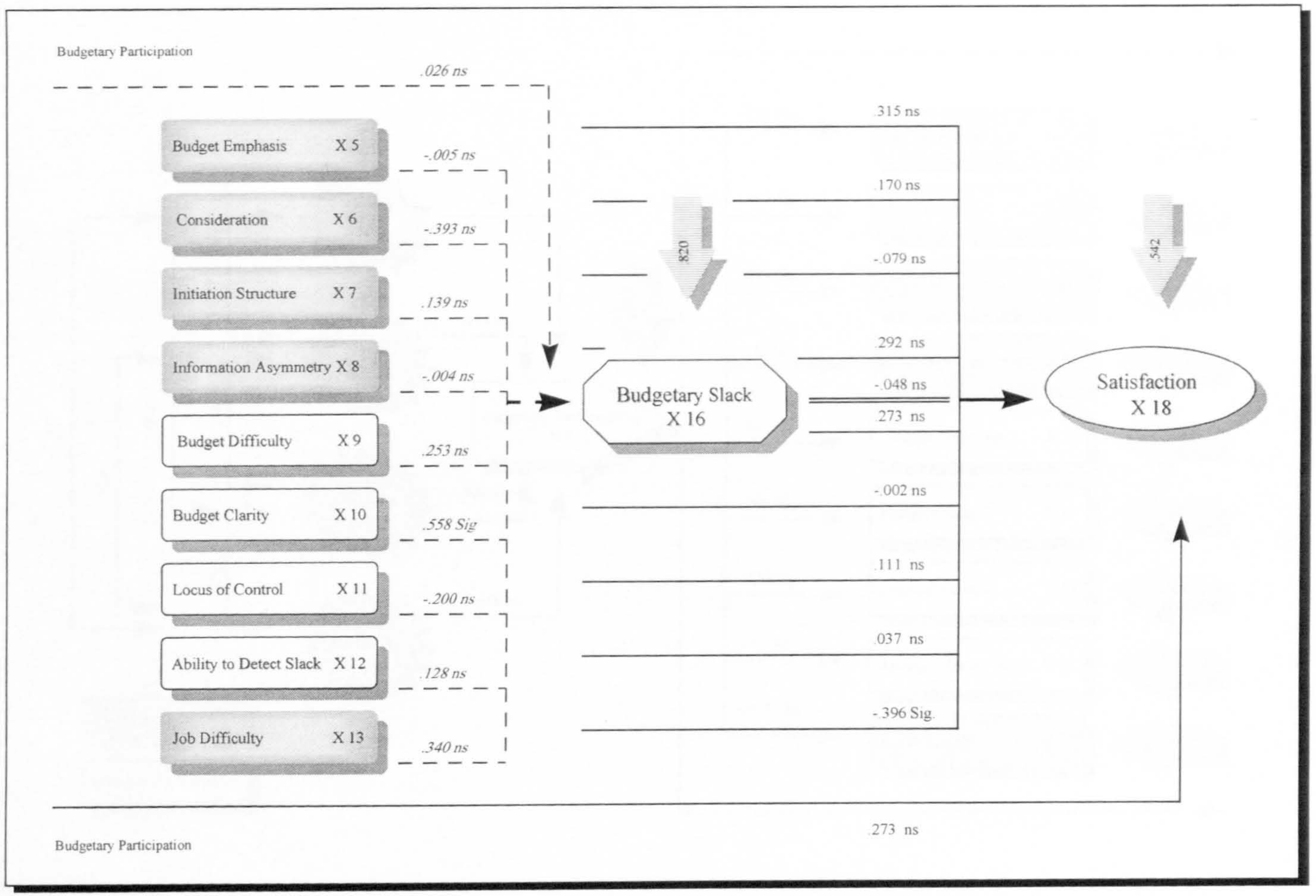


Figure 10-A-6

Path contributions of contingency variables on budgetary participation
and path contributions of budgetary participation on intervening variables (1)

Arab sample

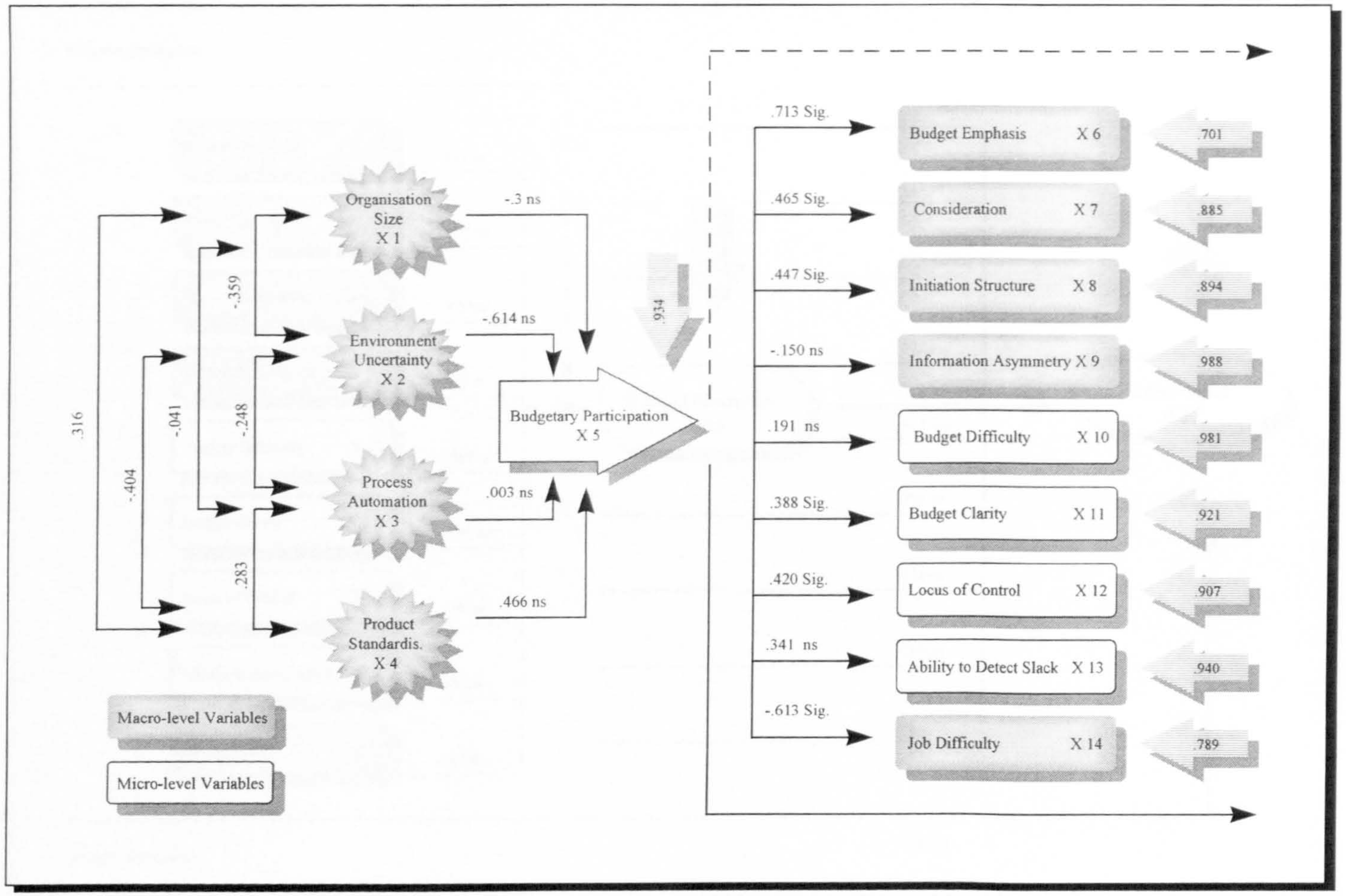


Figure 10-A-7

Sub-model (1)

Path contributions of budgetary participation on performance through intervening variables 1 and budget motivation

Arab sample

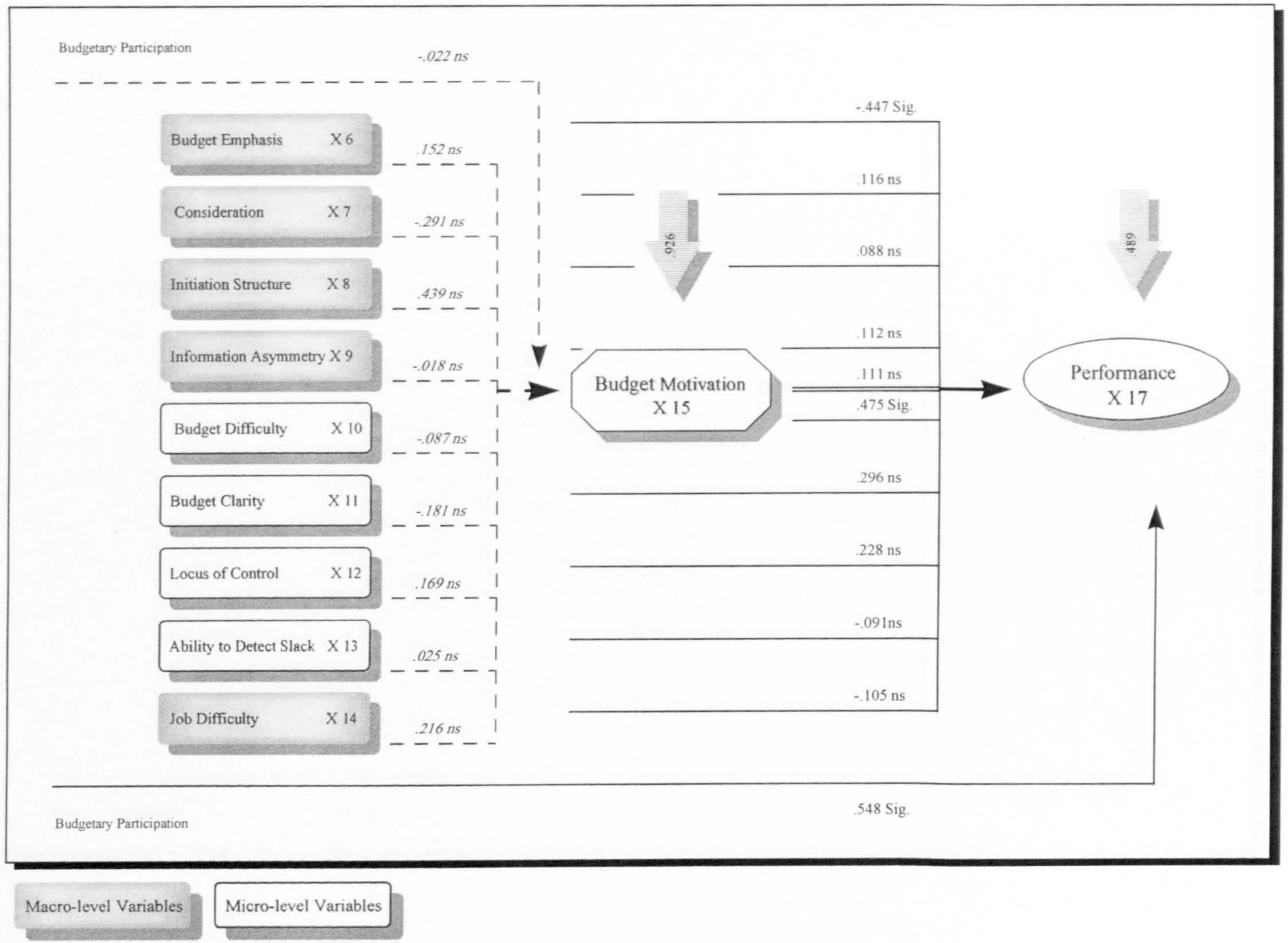
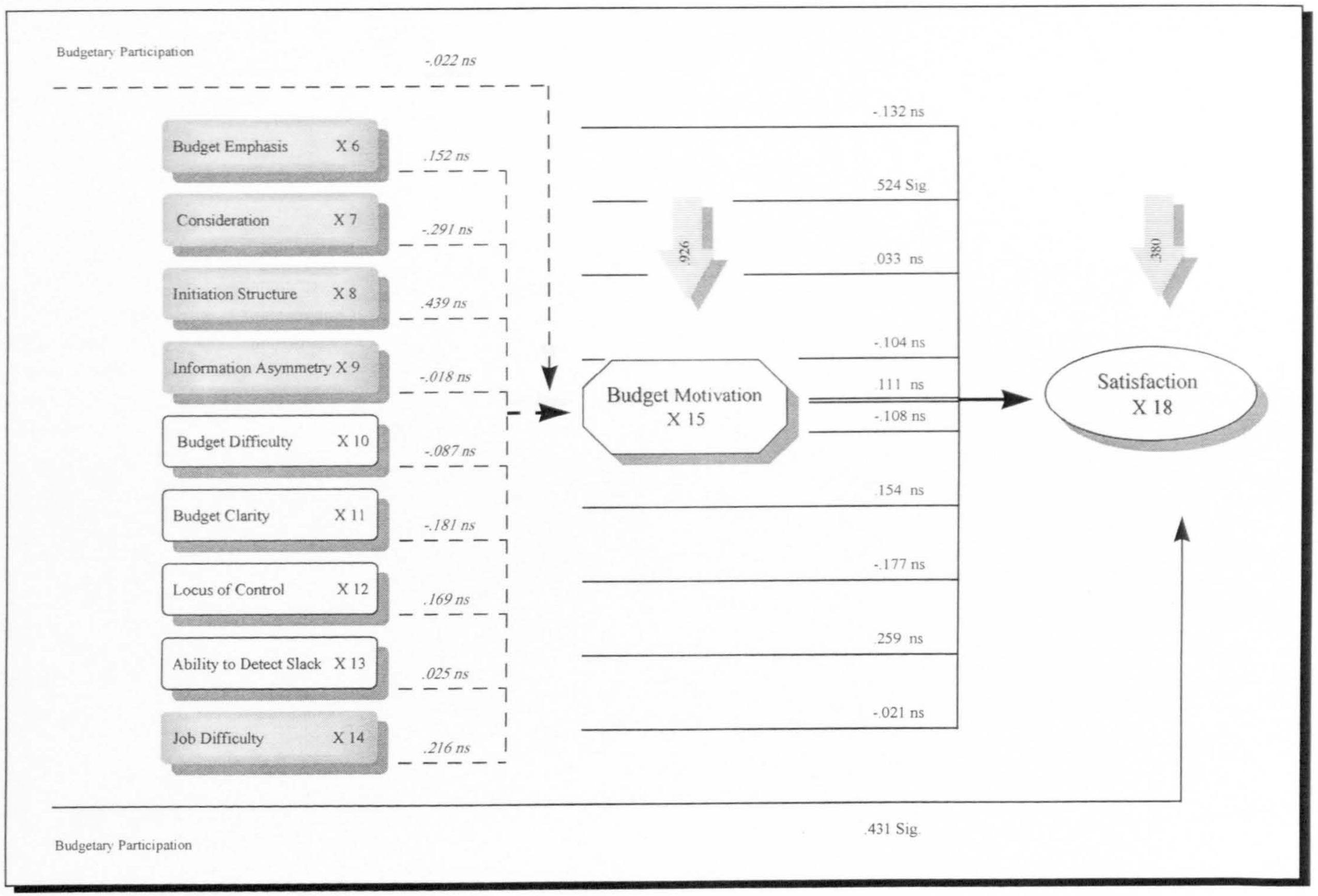


Figure 10-A-8

Sub-model (2)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budget motivation

Arab sample



Macro-level Variables Micro-level Variables

Figure 10-A-9

Sub-model (3)

Path contributions of budgetary participation on performance through intervening variables 1 and budgetary slack

Arab sample

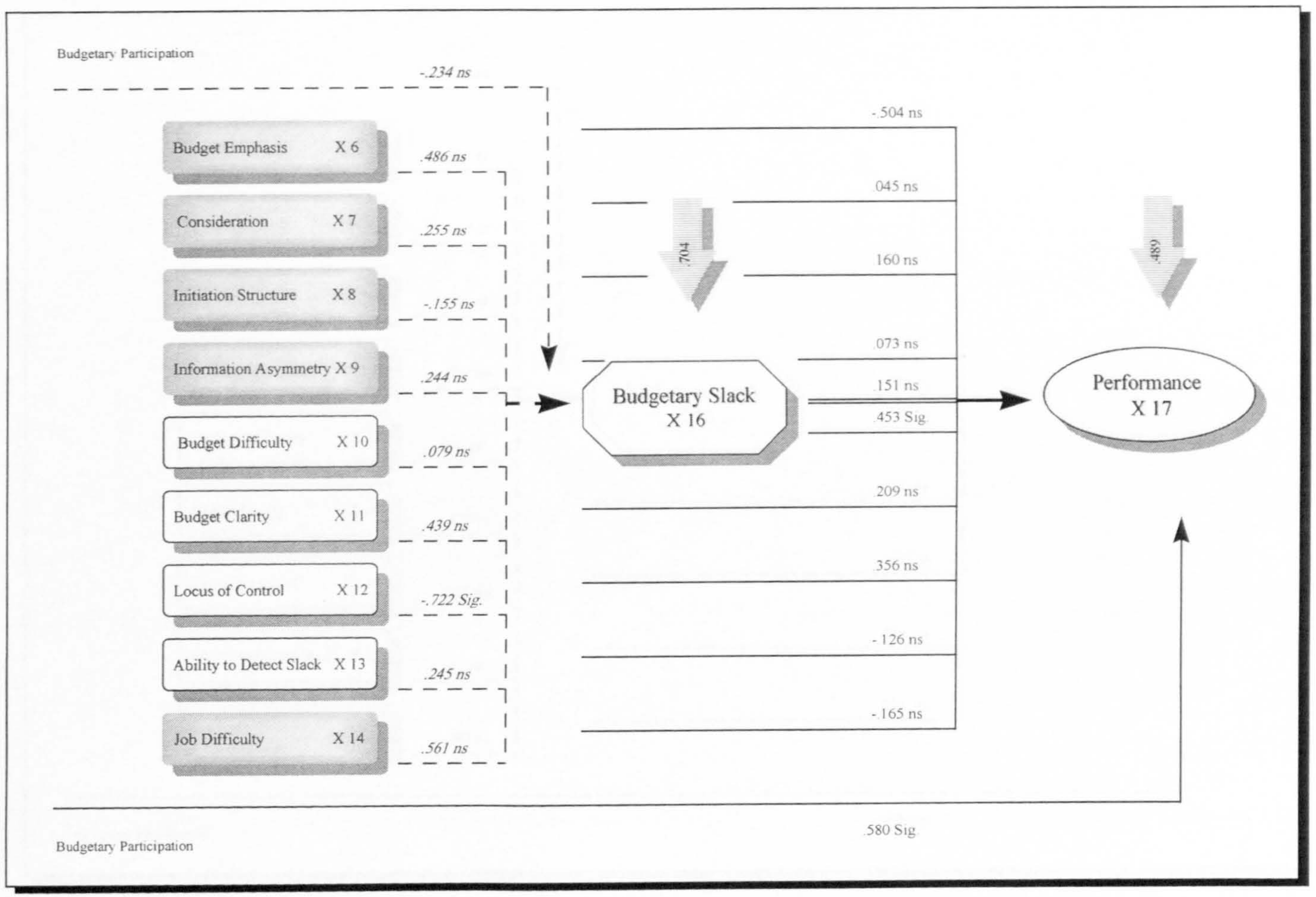
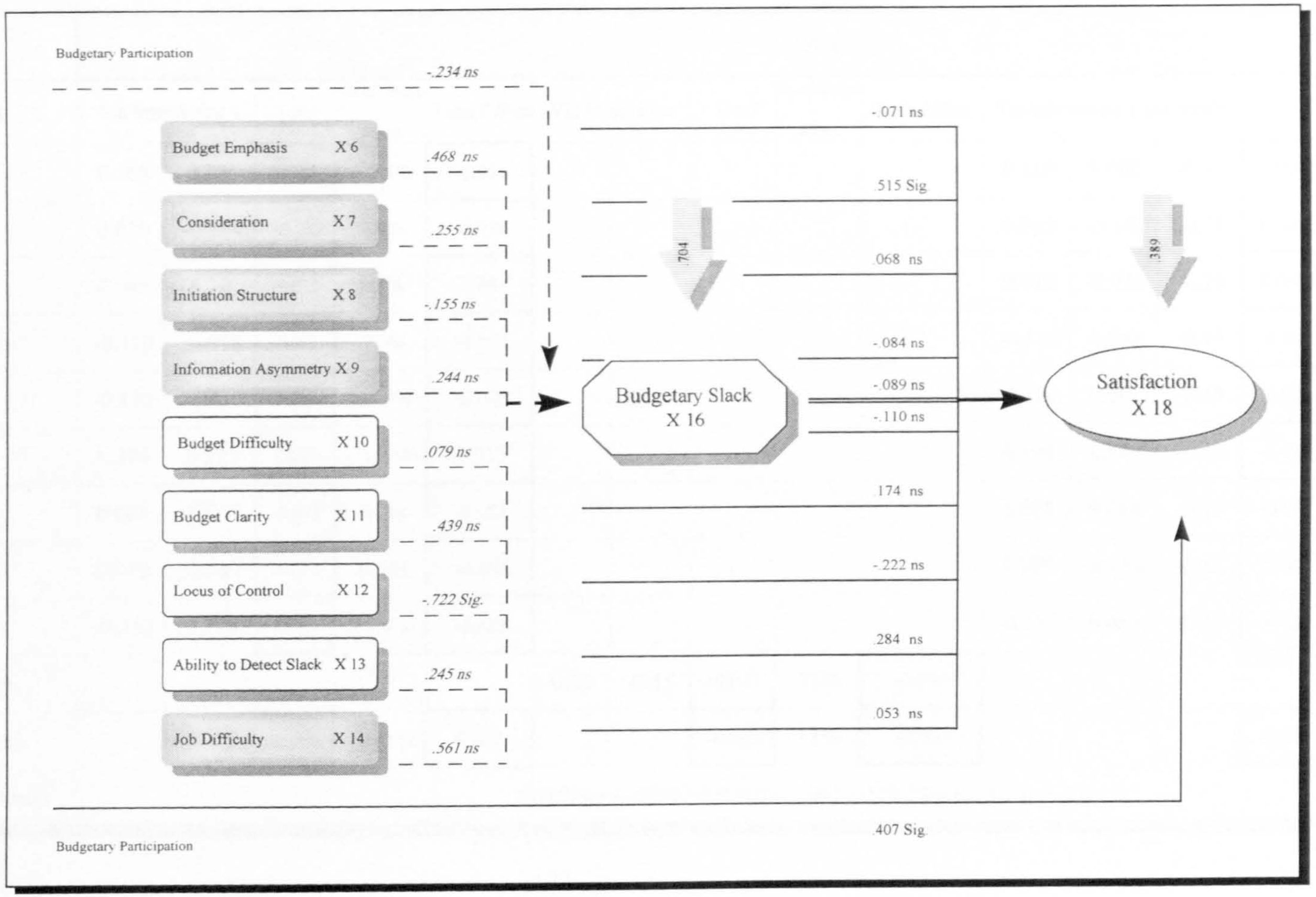


Figure 10-A-10

Sub-model (4)

Path contributions of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

Arab sample



Macro-level Variables Micro-level Variables

Table 10-A-1

Sub-model (1) - Saudi sample

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and budget motivation

Direct Effects	-0.076														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation	Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.168	0.386	0.065	-85.3%	-0.011					0.168	0.090	-0.15	-0.002	3.0%	-0.078
Consideration	0.010	-0.194	-0.002	2.6%	-0.078					0.010	-0.301	-0.15	0.0005	-0.6%	-0.076
Initiation Struction	0.045	-0.107	-0.005	6.3%	-0.081					0.045	-0.024	-0.15	0.0002	-0.2%	-0.076
Information Asymmetry	-0.110	-0.018	0.002	-2.6%	-0.074					-0.110	0.098	-0.15	0.002	-2.1%	-0.074
Budget Difficulty	-0.120	-0.310	0.037	-48.9%	-0.039					-0.120	0.061	-0.15	0.001	-1.4%	-0.075
Budget Clarity	0.394	0.223	0.088	-115.6%	0.012					0.394	0.149	-0.15	-0.009	11.6%	-0.085
Locus of Control	0.088	-0.055	-0.005	6.4%	-0.081					0.088	0.084	-0.15	-0.001	1.5%	-0.077
Ability to Detect Slack	0.079	-0.327	-0.026	34.0%	-0.102					0.079	-0.283	-0.15	0.003	-4.4%	-0.073
Job Difficulty	-0.210	0.220	-0.046	60.8%	-0.122					-0.210	0.056	-0.15	0.002	-2.3%	-0.074
Budgetary Participation						0.16	-0.15	-0.023	31%	-0.099					
Total Indirect Effects			0.108	-142.5%	0.032			-0.023	31%	-0.099			-0.004	4.9%	-0.080
Net Effect of the Three Routes	{(.108) + (-.023) + (.004)} = -.091 (-119.7%) + (-.076) = .015														

Table 10-A-2

Sub-model (2) - Saudi sample

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and budget motivation

Direct Effects	0.291														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation	Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.168	0.326	0.055	18.8%	0.346					0.168	0.090	-0.12	-0.002	-0.6%	0.289
Consideration	0.010	0.153	0.002	0.5%	0.293					0.010	-0.301	-0.12	0.0004	0.1%	0.291
Initiation Struction	0.045	-0.089	-0.004	-1.4%	0.287					0.045	-0.024	-0.12	0.0001	0.0%	0.291
Information Asymmetry	-0.110	0.304	-0.033	-11.5%	0.258					-0.110	0.098	-0.12	0.001	0.4%	0.292
Budget Difficulty	-0.120	0.268	-0.032	-11.1%	0.259					-0.120	0.061	-0.12	0.001	0.3%	0.292
Budget Clarity	0.394	-0.011	-0.004	-1.5%	0.287					0.394	0.149	-0.12	-0.007	-2.4%	0.284
Locus of Control	0.088	0.130	0.011	3.9%	0.302					0.088	0.084	-0.12	-0.001	-0.3%	0.290
Ability to Detect Slack	0.079	-0.003	0.000	-0.1%	0.291					0.079	-0.283	-0.12	0.003	0.9%	0.294
Job Difficulty	-0.210	-0.405	0.085	29.2%	0.376					-0.210	0.056	-0.12	0.001	0.5%	0.292
Budgetary Participation						0.16	-0.12	-0.019	-6%	0.272					
Total Indirect Effects			0.079	0.0%	0.003			-0.019	-6%	0.272			-0.003	-1.0%	0.288
Net Effect of the Three Routes	{(.078) + (-.019) + (-.003)} = .056 (19.2%) + .291 = .347														

Table 10-A-3

Sub-model (3) - Saudi sample

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and budgetary slack

Direct Effects	-0.091														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack		Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.168	0.371	0.062	-68.5%	-0.029						0.168	-0.005	-0.339	0.0003	-0.3%	-0.091
Consideration	0.010	-0.282	-0.003	3.1%	-0.094						0.010	-0.393	-0.339	0.001	-1.5%	-0.090
Initiation Struction	0.045	-0.057	-0.003	2.8%	-0.094						0.045	0.139	-0.339	-0.002	2.3%	-0.093
Information Asymmetry	-0.110	-0.034	0.004	-4.1%	-0.087						-0.110	-0.004	-0.339	-0.0001	0.2%	-0.091
Budget Difficulty	-0.120	-0.233	0.028	-30.7%	-0.063						-0.120	0.253	-0.339	0.010	-11.3%	-0.081
Budget Clarity	0.394	0.390	0.154	-168.9%	0.063						0.394	0.558	-0.339	-0.075	81.9%	-0.166
Locus of Control	0.088	-0.136	-0.012	13.2%	-0.103						0.088	-0.200	-0.339	0.006	-6.6%	-0.085
Ability to Detect Slack	0.079	-0.242	-0.019	21.0%	-0.110						0.079	0.128	-0.339	-0.003	3.8%	-0.094
Job Difficulty	-0.210	0.327	-0.069	75.5%	-0.160						-0.210	0.340	-0.339	0.024	-26.6%	-0.067
Budgetary Participation						0.03	-0.339	-0.009	10%	-0.100						
Total Indirect Effects			0.143	-156.6%	0.067			-0.009	10%	-0.100				-0.038	41.9%	-0.129
Net Effect of the Three Routes	{(.142) + (-.009) + (-.038)} = .095 (-104.3%) + (-.091) = .004															

Table 10-A-4

Sub-model (4) - Saudi sample

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

Direct Effects	0.273															
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack		Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.168	0.315	0.053	19.4%	0.326						0.168	-0.005	-0.048	0.000	0.0%	0.273
Consideration	0.010	0.170	0.002	0.6%	0.275						0.010	-0.393	-0.048	0.0002	0.1%	0.273
Initiation Struction	0.045	-0.079	-0.004	-1.3%	0.269						0.045	0.139	-0.048	-0.0003	-0.1%	0.273
Information Asymmetry	-0.110	0.292	-0.032	-11.8%	0.241						-0.110	-0.004	-0.048	0.000	0.0%	0.273
Budget Difficulty	-0.120	0.273	-0.033	-12.0%	0.240						-0.120	0.253	-0.048	0.001	0.5%	0.274
Budget Clarity	0.394	-0.002	-0.001	-0.3%	0.272						0.394	0.558	-0.048	-0.011	-3.9%	0.262
Locus of Control	0.088	0.111	0.010	3.6%	0.283						0.088	-0.200	-0.048	0.001	0.3%	0.274
Ability to Detect Slack	0.079	0.037	0.003	1.1%	0.276						0.079	0.128	-0.048	-0.0005	-0.2%	0.273
Job Difficulty	-0.210	-0.396	0.083	30.5%	0.356						-0.210	0.340	-0.048	0.003	1.3%	0.276
Budgetary Participation						0.03	-0.048	-0.001	-0.5%	0.272						
Total Indirect Effects			0.081	29.8%	0.005			-0.001	-0.5%	0.272				-0.005	-2.0%	0.268
Net Effect of the Three Routes	{(.08) + (-.001) + (-.005)} = .075 (27.4%) + .273 = .348															

Table 10-A-5

Sub-model (1) - Arab sample

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and budget motivation

Direct Effects	0.548														
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation	Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.713	-0.447	-0.319	-58.2%	0.229					0.713	0.152	0.111	0.012	2.2%	0.560
Consideration	0.465	0.116	0.054	9.8%	0.602					0.465	-0.291	0.111	-0.015	-2.7%	0.533
Initiation Struction	0.447	0.088	0.039	7.2%	0.587					0.447	0.439	0.111	0.022	4.0%	0.570
Information Asymmetry	-0.150	0.112	-0.017	-3.1%	0.531					-0.150	-0.018	0.111	0.0003	0.1%	0.548
Budget Difficulty	0.191	0.475	0.091	16.6%	0.639					0.191	-0.087	0.111	-0.002	-0.3%	0.546
Budget Clarity	0.388	0.296	0.115	21.0%	0.663					0.388	-0.181	0.111	-0.008	-1.4%	0.540
Locus of Control	0.420	0.228	0.096	17.5%	0.644					0.420	0.169	0.111	0.008	1.4%	0.556
Ability to Detect Slack	0.341	-0.091	-0.031	-5.7%	0.517					0.341	0.025	0.111	0.001	0.2%	0.549
Job Difficulty	-0.613	-0.105	0.064	11.7%	0.612					-0.613	0.216	0.111	-0.015	-2.7%	0.533
Budgetary Participation						-0.02	0.111	-0.002	-0.4%	0.546					
Total Indirect Effects			0.092	16.9%	0.640			-0.002	-0.4%	0.546			0.004	0.7%	0.552
Net Effect of the Three Routes	{(.09) + (-.002) + (.004)} = .093 (16.9%) + .548 = .641														

Table 10-A-6

Sub-model (2) - Arab sample

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and budget motivation

Direct Effects	0.431															
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Motivation		Total	% of direct effect	Total Effect	Via Intervening 1 and Motiv.			Total	% of direct effect	Total Effect
Budget Emphasis	0.713	-0.132	-0.094	-21.8%	0.337						0.713	0.152	0.111	0.012	2.8%	0.443
Consideration	0.465	0.524	0.244	56.5%	0.675						0.465	-0.291	0.111	-0.015	-3.5%	0.416
Initiation Struction	0.447	0.033	0.015	3.4%	0.446						0.447	0.439	0.111	0.022	5.1%	0.453
Information Asymmetry	-0.150	-0.104	0.016	3.6%	0.447						-0.150	-0.018	0.111	0.0003	0.1%	0.431
Budget Difficulty	0.191	-0.108	-0.021	-4.8%	0.410						0.191	-0.087	0.111	-0.002	-0.4%	0.429
Budget Clarity	0.388	0.154	0.060	13.9%	0.491						0.388	-0.181	0.111	-0.008	-1.8%	0.423
Locus of Control	0.420	-0.177	-0.074	-17.2%	0.357						0.420	0.169	0.111	0.008	1.8%	0.439
Ability to Detect Slack	0.341	0.259	0.088	20.5%	0.519						0.341	0.025	0.111	0.001	0.2%	0.432
Job Difficulty	-0.613	-0.021	0.013	3.0%	0.444						-0.613	0.216	0.111	-0.015	-3.4%	0.416
Budgetary Participation						-0.02	0.111	-0.002	-1%	0.429						
Total Indirect Effects			0.246	57.0%	0.794			-0.002	-1%	0.429				0.004	1%	0.435
Net Effect of the Three Routes	{(.24) + (-.002) + (.003)} = .247 (57.3%) + .431 = .678															

Table 10-A-7

Sub-model (3) - Arab sample

Path contributions of the effect of budgetary participation on performance through intervening variables 1 and budgetary slack

Direct Effects	0.58															
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack		Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.713	-0.504	-0.359	-62.0%	0.221						0.713	0.486	0.151	0.052	9.0%	0.632
Consideration	0.465	0.045	0.021	3.6%	0.601						0.465	0.255	0.151	0.018	3.1%	0.598
Initiation Struction	0.447	0.160	0.072	12.3%	0.652						0.447	-0.155	0.151	-0.010	-1.8%	0.570
Information Asymmetry	-0.150	0.073	-0.011	-1.9%	0.569						-0.150	0.244	0.151	-0.006	-1.0%	0.574
Budget Difficulty	0.191	0.453	0.087	14.9%	0.667						0.191	0.079	0.151	0.002	0.4%	0.582
Budget Clarity	0.388	0.209	0.081	14.0%	0.661						0.388	0.439	0.151	0.026	4.4%	0.606
Locus of Control	0.420	0.356	0.150	25.8%	0.730						0.420	-0.722	0.151	-0.046	-7.9%	0.534
Ability to Detect Slack	0.341	-0.126	-0.043	-7.4%	0.537						0.341	0.245	0.151	0.013	2.2%	0.593
Job Difficulty	-0.613	-0.165	0.101	17.4%	0.681						-0.613	0.561	0.151	-0.052	-9.0%	0.528
Budgetary Participation						-0.23	0.151	-0.035	-6%	0.545						
Total Indirect Effects			0.097	16.8%	0.645			-0.035	-6%	0.545				-0.003	-0.5%	0.577
Net Effect of the Three Routes	{(.10) + (-.035) + (-.003)} = .059 (10.1%) + .58 = .639															

Table 10-A-8

Sub-model (4) - Arab sample

Path contributions of the effect of budgetary participation on satisfaction through intervening variables 1 and budgetary slack

Direct Effects	0.407															
Indirect Effects	Via Intervening 1		Total	% of direct effect	Total Effect	Via Slack	Total	% of direct effect	Total Effect	Via Intervening 1 and Slack			Total	% of direct effect	Total Effect
Budget Emphasis	0.713	-0.071	-0.051	-12.4%	0.356					0.713	0.486	-0.089	-0.031	-7.6%	0.376
Consideration	0.465	0.515	0.239	58.8%	0.646					0.465	0.255	-0.089	-0.011	-2.6%	0.396
Initiation Struction	0.447	0.068	0.030	7.5%	0.437					0.447	-0.155	-0.089	0.006	1.5%	0.413
Information Asymmetry	-0.150	-0.084	0.013	3.1%	0.420					-0.150	0.244	-0.089	0.003	0.8%	0.410
Budget Difficulty	0.191	-0.110	-0.021	-5.2%	0.386					0.191	0.079	-0.089	-0.001	-0.3%	0.406
Budget Clarity	0.388	0.174	0.068	16.6%	0.475					0.388	0.439	-0.089	-0.015	-3.7%	0.392
Locus of Control	0.420	-0.222	-0.093	-22.9%	0.314					0.420	-0.722	-0.089	0.027	6.6%	0.434
Ability to Detect Slack	0.341	0.284	0.097	23.8%	0.504					0.341	0.245	-0.089	-0.007	-1.8%	0.400
Job Difficulty	-0.613	0.053	-0.032	-8.0%	0.375					-0.613	0.561	-0.089	0.031	7.5%	0.438
Budgetary Participation						-0.23	-0.089	0.021	5%	0.601					
Total Indirect Effects			0.249	61.3%	0.656			0.021	5%	0.601			0.002	0.4%	0.409
Net Effect of the Three Routes	{(.25) + (.021) + (.002)} = .272 (66.8%) + .407 = .679														

Table 10-A-9

Summary of the results of the moderating and intervening approaches for Saudi and Arab samples

Macro-level hypotheses				Saudi Sample "Locals"			Arab Sample "Non-locals"		
Number of hypotheses	Nature of the hypotheses	Expected effect	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-I.1	Organisation size and budgetary participation	Positive	p.2.8	WS 40	WS 31	WS 40	WS 26	WR 10	WS 26
H-I.2	Environment uncertainty and budgetary participation	Positive	p.2.10	R 35	R 31	R 35	R 29	WR 10	R 29
H-I.3	Process automation and budgetary participation	Positive	p.2.13	WR 35	WR 31	WR 35	S 16	WS 10	S 16
H-I.4	Product standardisation and budgetary participation	Negative	p.2.14	WR 38	WR 31	WR 38	WR 16	WR 10	WR 16
H-I.5	Leadership style as a contingent role between BP and motivation	I - Negative C - Positive	p.2.18	WR 44	WR 32	WR 44	WR 32	WR 23	WR 32
H-I.6	Initiation structure and budget emphasis	Positive	p.2.18	WR 50	N/A	WR 50	S 38	N/A	S 38
H-I.7a	Budget emphasis as a contingent role between BP and performance	Positive	p.2.25	WR 46	WS 32	WR 46	WR 34	R 23	WS 34
H-I.7b	Budget emphasis as a contingent role between BP and satisfaction	Positive	p.2.25	WR 45	WS 32	WR 45	N/S 32	WR 23	S 32
H-I.8	Budget emphasis as a contingent role between BP and motivation	Positive	p.2.25	WR 45	WS 32	WS 45	WS 32	WR 23	WS 32
H-I.9a	Inform. asymmetry as a contingent role between BP and motivation	Positive	p.2.28	WS 45	WS 32	WS 45	R 32	WR 23	WS 32
H-I.9b	Inform. asymmetry as a contingent role between BP and slack	Positive	p.2.28	WS 47	N/S 32	WS 47	WS 35	WS 23	WS 35
H-I.10	Information asymmetry and organization size	Positive	p.2.28	WS 40	N/A	WS 40	WR 28	N/A	WR 28
H-I.11	Job difficulty as a contingent role between BP and performance	Positive	p.2.30	WS 46	WR 32	WR 46	WR 32	WR 23	R 32

S - Supported "statistically significant", and the sign in the expected direction
WS - Weakly supported "statistically insignificant", but the sign in the expected direction
N/A- Not applicable.
Numbers below signs refer to the sample size.

R - Rejected "statistically significant", but the sign in the unexpected direction
WR - Weakly rejected "statistically insignificant", but the sign in the unexpected direction
N/S - No sufficient evidence, this means coefficients are so close to zero (i.e. .0001) that would be misleading to attribute a definite sign to the coefficient.

10-A-9 Continued table

Micro-level hypotheses				Saudi Sample "Locals"			Arab Sample "Non-locals"		
Number of hypotheses	Nature of the hypotheses	Expected effect	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-II.1a	Budgetary Participation and performance	Positive	p.3.7	WS 46	WS 32	WS 46	S 34	S 23	S 34
H-II.1b	Budgetary Participation and satisfaction	Positive	p.3.7	WS 45	S 32	WS 45	S 33	WS 23	S 33
H-II.2	Managers and subordinates participation in budgetary process	Positive	p.3.8	WR 29	N/A	WR 29	WR 21	N/A	WR 21
H-II.3a	Budget difficulty as a contingent role between BP and motivation	Positive	p.3.10	WR 43	WR 32	WR 43	WR 31	WR 23	N/S 31
H-II.3b	Budget difficulty as a contingent role between BP and slack	Negative	p.3.10	WR 46	WR 32	WR 46	WR 34	WR 23	WR 34
H-II.4a	Budget clarity as a contingent role between BP and performance	Positive	p.3.11	WS 45	WS 32	WS 45	WR 33	WS 23	S 33
H-II.4b	Budget clarity as a contingent role between BP and satisfaction	Positive	p.3.11	WS 43	WR 32	S 43	WS 31	WS 23	S 31
H-II.5	Locus of control as a contingent role between BP and slack	I - Positive E - Negative	p.3.15	WS 47	WS 32	WS 47	WS 34	S 23	WS 34
H-II.6	Budgetary participation and budget motivation	Positive	p.3.18	WS 45	WS 32	WS 45	WS 33	WR 23	WS 33
H-II.7	Budget motivation as a contingent role between BP and performance	Positive	p.3.19	WS 41	WR 32	WR 41	WR 30	WR 23	WS 30
H-II.8	Budget motivation as a contingent role between BP and satisfaction	Positive	p.3.19	WR 40	WR 32	WR 40	WR 30	WR 23	WS 30
H-II.9	Budgetary Participation budgetary slack	Negative	p.3.22	WR 48	WR 32	WR 48	WS 35	WS 23	WS 35
H-II.10	Superior ability to detect slack as a contingent role between BP and slack	Negative	p.3.22	WR 48	WR 32	WR 48	WS 39	WR 23	WS 39
H-II.11	Budgetary slack as a contingent role between BP and performance	Negative	p.3.23	WR 45	WS 32	WS 45	WS 32	WR 23	WS 32
H-II.12	Budgetary slack as a contingent role between BP and satisfaction	Positive	p.3.23	WR 43	WR 32	WR 43	WR 31	WR 23	WS 31

S - Supported "statistically significant", and the sign in the expected direction
WS - Weakly supported "statistically insignificant", but the sign in the expected direction
N/A- Not applicable.
Numbers below signs refer to the sample size.

R - Rejected "statistically significant", but the sign in the unexpected direction
WR - Weakly rejected "statistically insignificant", but the sign in the unexpected direction
N/S - No sufficient evidence, this means coefficients are so close to zero (i.e. .0001) that would be misleading to attribute a definite sign to the coefficient.

Chapter Eleven

Comparitive Study, Summary, and Conclusion

11- Comparative Study, summary and Conclusion

11-1 Comparative study and cultural differences

Chapters 2 & 3 discussed the aims of this study, the literature review on which the research hypotheses the proposed model have been developed. Chapter four has argued that culture plays a contingent role in some relationships in this area of research. Chapters five and six introduced the structure of the proposed model, the research methodology adopted to test the hypotheses, and defined the sites of the field study, which were Saudi Arabia and UK. Chapters seven to ten have examined the results of both Saudi and British samples with respect to the research hypotheses.

Although Hofstede's cultural dimensions discussed in chapter six provided clear-cut evidence that Saudi and British cultures are substantially different, the research hypotheses have been based on studies which were conducted in UK and other sites that have similar cultural dimensions. No cultural differences have been embodied in the research hypotheses as almost all the literature is based on a western culture. Nevertheless, as there is a lack in the literature regarding the role of culture on some variables considered in this study, this research investigates the matter further by applying the proposed model in three samples each of which has its own cultural characteristics.

This chapter will compare the results of the three studies. For certain hypotheses and partially explain the differences between the studies. So, this chapter will consider the implications of the literature on cultural differences and proposes some new hypotheses that indicate the expected changes that cultural differences would make to the original ones. These new hypotheses can be tested against the empirical data from the field studies. The comparative results for the three studies for each of the original hypothesis are set out in table 11-A-1 in the appendix to this chapter.

11-1-1 Macro-level hypotheses

11-1-1-1 Organisation size and budgetary participation (H-I.1).

From the literature review it was concluded that in big organisations, top management adopts decentralised decision making in order to run their activities effectively and smoothly. As a consequence lower management will be more involved in planning processes such as budgets because they have more accurate information in their own area of responsibilities. Hypothesis H-I.1 states that in large organisations there will be more participation in budgetary process by functional managers than in small organisations. In relation to this hypothesis, the researcher did not expect any cultural differences between the Saudi and British organisations, as the concept of decentralisation itself is not culturally dependent, rather it depends on the structure of an organisation as well as the personality of superiors whether or not they have authoritative trends.

Table 6-A-1 in the appendix to chapter six indicates that the mean of the size of the British sample was 4.2, which reveals an equal distribution of their existence in both large and small organisations. Arab managers were observed to be in a smaller organisations rather than large ones (mean = 3.2). The Saudi managers have reported a mean of 5.2 that reveal that they work in large organisations rather than small ones. From table 6.1 it can be seen that the Saudis reported a high level on uncertainty avoidance. According to the explanation of Hofstede [1994], people in such country fear of ambiguous situations and avoid risks. This interpretation may explain why Saudi managers work in large organisations. Labour turnover in such organisations are usually lower than the small ones.

However, the results of the British study strongly supported the research hypothesis that argues when organisation size increases, budgetary participation also increases. Although the results of the Saudi and Arab samples have reported insignificant relationship between organisation size and budgetary participation, the effect was in the expected direction. The size of both samples shown in table 11-A-1 is

small and may limit the results, so it is possible to say that they do not contradict the research hypothesis.

To confirm the nature of this results further, size variable was dichotomised into low and high levels at the mid point of their scales, then the mean of budgetary participation was run for each group as indicated in table 11.1.

Table 11.1

Means of budgetary participation at low and high levels of organisation size

	British	Saudi	Arab	Overall
Small Organisations	27.7	30.29	32.27	29.6
Big Organisations	32.18	33.17	36.25	33.04

The results shown in table 11.1 are consistent with H-I.1 which argued that managers' participation in the budgetary process is greater in big organisations than in small ones. The previous results, particularly the British one, confirmed the literature review which proposed this relationship. They were consistent with the results of Merchant [1984] and Lyne [1988] who supported this argument. Whereas it was contradictory to Ezzamel who failed to support this proposition in his study which was conducted in the UK. The results of both Ezzamel and this study produced different results within the same country. A possible explanation is that the Ezzamel's sample consisted of financial directors whereas the sample of this study was a combination of different department managers. Considering the fact that budget preparation is the responsibility of the financial manager of an organisation regardless its size, we can conclude that the result of Ezzamel was completely logical.

To check this point further, correlation analysis was run only for the accounting managers. The result was not significant, but the correlation coefficient was higher. The sample size for this procedure was 9, which is low, but similar to the Ezzamel study.

11-1-1-2 Environment uncertainty and budgetary participation (H-I.2).

Hypothesis H-I.2 states that in situation of high environment uncertainty, there will be high participation in budgetary process to reduce uncertainty. It was not expected that culture will play a role in this proposition as, so far, no evidence from previous studies supported that. The results shown in table 11-A-1 provided a strong rejection for this hypothesis in the three samples. Although the direction of the effect was opposite to the anticipated direction, the results lent support to the fact that culture has no effect in this area.

This counter-intuitive result may be explained by two possible reasons. First, it is possible to argue that when there are high levels of uncertainty, senior management will have little confidence in the arguments advanced by departmental managers in participative situations. Rather than have to accept what they cannot evaluate, due to the high levels of uncertainty involved, they may choose to make decisions themselves and thus reduce managers participation in decision making. Secondly, it is possible to reverse the usual logic for the association between a high level of uncertainty and high budgetary participation. It may be that *as a result of* participative budgetary procedures, the level of uncertainty is reduced. So, the participative process results in an increased sharing of information and a reduction in uncertainty, leading to the association of budgetary participation and low uncertainty.

The results of the British sample and that of Ezzamel [1990] do not agree. He found (p.190) a positive relationship between environment uncertainty and managers' participation in budgetary process, whereas the result of this study was the opposite. These contradictory results could be attributed to the nature of his sample which was discussed in the previous section. To check that, correlation procedures were ran for accounting managers only for environment uncertainty-participation relationship. The result was insignificant and the sign remained in the same direction (positive).

Although Govindarajan [1986, p.504] found an insignificant relationship between participation and environment uncertainty, the sign of his correlation coefficient was consistent with this study. Further research in this area is needed.

11-1-1-3 Process automation and budgetary participation (H-I.3).

Hypothesis H-I.3 states that managers will exercise high participation in the budgetary process in highly automated companies than in low automated ones. Again, the researcher did not expect that culture would play a role in this proposition as, so far, no evidence from previous studies suggested that. The results of the British and Arab samples were similar as their signs were in the anticipated direction, though it was insignificant for the British sample. On the other hand, the results of the Saudi sample contradicted those of British and Arab samples as it provided weak rejection of this hypothesis.

In section 2-3-1 (p.2.12) Brownell & Merchant [1990] argued two possibilities for this relationship. The first proposed a negative relationship with participation, and the second proposed a positive relationship. Thus, the result of the Saudi sample was consistent with the first point of view, whereas the results of both British and Arab samples were consistent with the second point of view. The results of Mann-Whitney test in table 6.2 show that there was a significant difference between both Saudi and Arab and Saudi and British for process automation, whereas no difference was observed between the British and Arab samples. This difference can be also observed from table 6-A-1 (p.6.38) where the mean of process automation reported by Saudi managers (14.1) was higher than both British (11.5) and Arab (11.2).

The higher mean for process automation of the Saudi sample revealed that Saudi managers exist to some extent in highly automated organisations rather than the low automated ones. Brownell & Merchant [1990] argued that in highly automated organisations, control increases over the manufacturing process, and thus reduces the role of budgetary control and consequently managers' participation. The Saudi study provides support to this proposition *though statistically insignificant.*

Merchant [1984] tested the relationship between process automation and participation. The measure of participation he used embodied the following three aspects: how much influence on budget plans managers have, personal involvement in budgeting and time spent in budget related activities. The results showed that process

automation had a positive relationship only with the first item, whereas no such relationship was observed for the other items. This result is consistent with the Arab sample and it is also similar to the British one, but inconsistent with the Saudi sample.

11-1-1-4 Product standardisation and budgetary participation H-I.4.

Based on the literature review, Hypothesis H-I.4 states that in low standardised organisations managers exercise a higher degree of participation in the budgetary process than in high standardised ones. Again, this research did not expect any cultural differences in this hypothesis as, so far, no evidence from previous studies suggested that. The results of British, Saudi, and Arab samples found a non-significant relationship between product standardisation and budgetary participation. However, British sample showed weak support to H-I.4 whereas the Saudi and Arab samples provided weak rejection of it. The result of the British sample was consistent with that of Merchant [1984] where product standardisation had a negative and insignificant relationship with budgetary participation.

11-1-1-5 The contingent role of leadership style between budgetary participation and motivation (H-I.5).

Based on the literature review, hypothesis H-I.5 states that leadership style plays a contingent role between budgetary participation and managers' motivation to achieve their budget. The explanation of this hypothesis using the moderating and intervening approaches were discussed in the relevant chapters. The researcher expected that when superiors have a leadership characterised as low initiation structure and high consideration, high participation will increases managers' motivation to achieve budget.

Table 6.1 (p.6.2) indicates that both Saudi and Arab culture are more collectivist than British. Hofstede [1994, p.67] mentioned that relationships for high collectivism countries prevail over tasks, and also the relationship between employer and employees is perceived in moral terms. Therefore, it is expected that initiation structure in such countries plays a positive role on the relationship between budgetary participation and

managers' motivation. Accordingly, this positive role requires the following change in hypothesis H-I.5 for the Saudi and Arab samples.

◊ *In the Saudi and Arab cultures - when managers' superiors have a leadership style characterised as high initiation structure, high participation increases their motivation.*

The British results do not lend sufficient evidence for this hypothesis as both moderating and intervening approaches produced contradictory signs though statistically insignificant. On the other hand, the results of the Saudi and Arab samples were similar as both showed that initiation structure had an insignificant contingent role between budgetary participation and motivation. Table 11-A-1 indicates weak rejection to the original hypothesis. However, these results give some support to the revised hypothesis, that is, cultural factors explain the differences between the British and other studies.

It should be noted that the role of consideration in H-I.5 was not clear. A possible explanation of this issue is that both dimensions (consideration and initiation structure) were positively and significantly related in the three samples. The conflicting role of consideration in this area of research was also observed in some previous research. DeCoster & Fertakis [1968, p.241] found that budget-induced pressure and consideration were positively related, where they expected a negative or at least little evidence of a positive correlation between the two variables.

11-1-1-6 Initiation structure and budget emphasis (H-I.6).

Hypothesis H-I.6 states that managers are more likely to be evaluated on the basis of budget emphasis if their superiors have a leadership style characterised by high initiation structure. As mentioned in the previous section, it is expected that initiation structure has a positive role in collectivism countries than individualism countries. Thus, initiation structure and budget emphasis are expected to be unrelated in collectivism countries. This positive role requires the following change in hypothesis H-I.6 for the Saudi and Arab samples.

◊ *In Saudi and Arab sample, initiation structure has no significant relationship with budget emphasis.*

The results shown in table 11-A-1 indicates that initiation structure had no significant relationship with budget emphasis for both Saudi and British samples. The direct of the effect was opposite to the original hypothesis. On the other hand, the result of the Arab sample has strongly supported the original hypothesis as initiation structure and budget emphasis were positively related. A possible explanation for the result of the Arab sample which was particularly different from the Saudi one is that superiors who are characterised as initiation structure use budget emphasis more strictly for non-locals.

11-1-1-7 Budget emphasis

This variable has been used extensively in this area of research and has been viewed differently in previous work. Some scholars (e.g. Brownell [1982] and Dunk [1989]) interpreted budget emphasis as "budget profit" which included by meeting the budget and also the profit in the long run. Others (Dunk [1993]) interpreted it only as meeting the budget. This study adopted the second opinion as it viewed budget emphasis similar to the original classification of Hopwood budget-constrained style which is measured only by meeting the budget.

This research proposed that when superiors put high emphasis on meeting budget, subordinates' participation in budgetary process is associated positively with performance (H-I.7a), satisfaction (H-I.7b), and motivation (H-I.8). With respect to the expected influence of culture on theses three hypotheses, Hofstede [1994, table 4.2, p.96] mentioned that managers in masculine countries are expected to be decisive and assertive. From table 6.1 (p.6.2) we can see that Saudi and Arab countries reported lower level on this scale in comparison with UK. Therefore, it is expected that British managers will perceive that their superiors exercise higher budget emphasis to evaluate their performance than the Saudi and Arab samples. Regarding H-I.7a&b and H-I.8, it is possible to argue the following changes with respect to the original hypotheses.

- ◊ *In the British sample, high budget emphasis will play a positive contingent role between budgetary participation and both managerial performance and motivation, and a negative role between budgetary participation and managers' satisfaction.*

- ◊ *In the Saudi and Arab samples, high budget emphasis will play a negative contingent role between budgetary participation and performance and a positive contingent role between budgetary participation and both satisfaction and motivation. The reason is that Saudi and Arab managers may expect that participation will lead to low level of budget emphasis instead of high emphasis because budget is a part of hierarchical control system.*

In table 6.2 (6.8) the Mann-Whitney test shows no significant difference between the three samples with respect to budget emphasis. Table 6-A-1 (p.6.38) indicates also that the three samples reported similar means which are high. The results of the related hypotheses are discussed below.

11-1-1-7-1 Budget emphasis as a contingent role between budgetary participation and performance (H-I.7a).

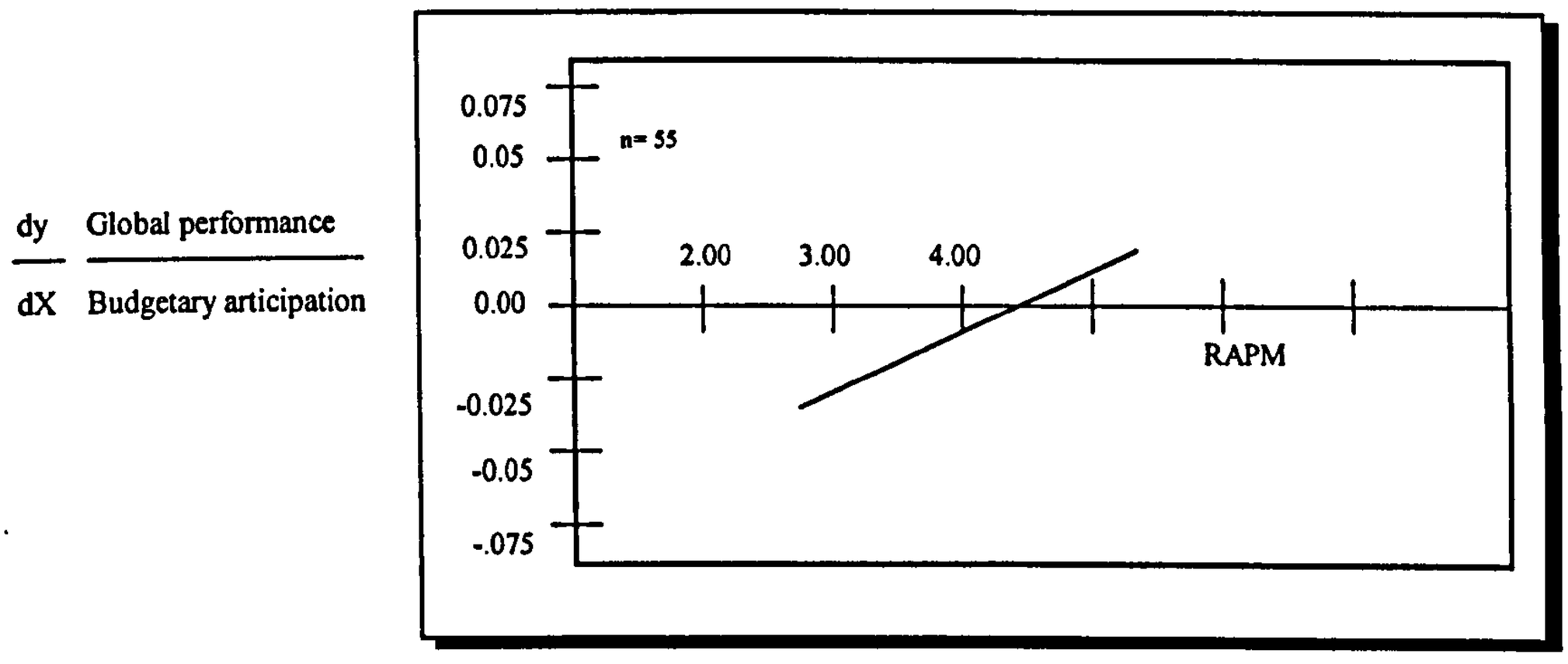
The result shown in table 11-A-1 indicates that H-I.7a was weakly rejected for the British sample. On the other hand, the result of the Arab sample lent a strong rejection for this hypothesis using the intervening approach. The result indicates that when Arab managers were highly involved in setting budget, their superiors exercised high emphasis on meeting budget and that affected their performance negatively. Although the result of the Arab sample was opposite to H-I.7a, it was consistent with the revised hypothesis. On the other hand, the Saudi results did not provide significant evidence to this hypothesis either for the original or the revised one.

It was mentioned in section 6-1-5-5 that the measure of budget emphasis used in this study was different from that used by Brownell [1982b] and Dunk [1989]. Therefore, it is not possible to compare the results of the three samples with the

previous works without unifying the measures used. To do that the researcher used the global item discussed in chapter six as a measure of performance. Budget emphasis was measured again using the summation of both meeting the budget and concern with the cost[1]. The results of this procedure are indicated in table A-D-25 in appendix D at the end of the thesis. These results indicate significant interaction between budgetary participation and RAPM (reliance on accounting performance measure) affecting the performance of the British managers ($p<0.1$). To check the nature of this interaction the same procedure using equations 7.3 &7.4 which was discussed in chapter seven was followed here. This resulted $X_2=4.6$, and the figure 11.1 indicates this interaction clearly.

Figure 11.1

The moderating role of RAPM between budgetary participation and performance



The result shown in figure 11.1 indicates that when RAPM increases, budgetary participation increases managerial performance. So, this result is inconsistent with Dunk [1989] who reported negative role for budget emphasis between budgetary participation and performance. The result of this study provided evidence that the measure of budget emphasis influence the relationship between budgetary participation and performance. However, the results of both this study and that of Dunk [1989] need to be investigated

1. To distinguish between the concept of budget emphasis adopted in this study "budget-constrained style" and that used in the previous studies "budget profit" RAPM was used as a term which reflect budget profit.

further as they were conducted in the same country (UK) and produced inconsistent results.

On the other hand, the results of the British study indicated in figure 11.1 are consistent with those of Brownell [1982b] who found a similar positive impact of budget emphasis and also inconsistent with that of Brownell and Hirst [Australia, 1986] who did not find this relationship. This subject requires further research before any conclusion can be drawn.

With reference to the results of both Saudi and Arab samples shown in table A-D-25, we can see that both samples reported positive effect for RAPM between budgetary participation and performance *though statistically insignificant*. Therefore, we can argue that budget-constrained style has a negative effect on the relationship between budgetary participation and managerial performance whereas budget profit leads to positive effect.

11-1-1-7-2 Budget emphasis as a contingent role between budgetary participation and satisfaction (H-I.7b).

H-I.7b states that when superiors exercise high budget emphasis, high participation will increase managers' satisfaction. The results shown in table 11-A-1 indicate that both British and Saudi results did not provide sufficient evidence for this hypothesis. But the result of the Arab sample showed a significant intervening role for budget emphasis between budgetary participation and managers' satisfaction.

The expected effect of culture on this relationship was explained in section 11.7. It was expected that in Saudi and Arab countries, which reported low scores on a masculine measure, budget emphasis increases the relationship between budgetary participation and managers' satisfaction. So, the results of the Arab sample support this argument.

Harrison [1993] found that high reliance on accounting performance measures in superiors' evaluative style was associated with lower tension and high job satisfaction in high power distance and low individualism countries (Singapore). Whereas low reliance

on accounting performance measures was associated with lower tension and high job satisfaction in low power distance and high individualism countries (Australia).

UK was classified as having similar cultural dimensions to that of Australia, whereas Singapore was classified as having cultural dimensions similar to the Arab countries (see Hofstede, [1994], figure 3.1 p.54). Therefore, it is possible to argue that the result of Harrison [1993] which was applied in Singapore will be similar for both Saudi and Arab samples. From tables 7-A-1, 10-A-1, 10-A-2 we can find that budget emphasis (meeting the budget) was positively and significantly related to managers' satisfaction for both Saudi and Arab samples. Whereas no significant relationship was observed for the British sample though the direction of the effect was positive. When the effect of RAPM (meeting budget and concern with cost) was tested on managers' satisfaction, same conclusion was drawn. Accordingly, the results of Saudi and Arab sample lend support to Harrison [1993].

Again, to provide an unbiased comparison with the study of Brownell [1982b], RAPM was tested again as a moderating variable between budgetary participation and managers' satisfaction. The results are shown in table A-D-26. The results show that RAPM was a positive moderator between budgetary participation and managers' satisfaction for both British and Arab samples *though statistically insignificant.* Whereas the results of Saudi sample was in the opposite direction and also *statistically insignificant.* The results of both British and Arab sample provide weak support for Brownell [1982b].

11-1-1-7-3 Budget emphasis as a contingent role between budgetary participation and motivation (H-I.8).

H-I.8 states that when superiors exercise high budget emphasis, budgetary participation increases managers' motivation to achieve budget. The results shown in table 11-A-1 indicate that the British results strongly supported this proposition, whereas the results of both Saudi and Arab samples did not provide sufficient evidence for this hypothesis, neither for the original hypothesis nor to the revised hypothesis with respect to the culture.

11-1-1-8 Information asymmetry

Information asymmetry refers to the extent to which subordinates are expected to have more work-related information than their superiors. In decentralised organisations, subordinates are in positions of having more work-related information more than their superior, whereas in the centralised ones, superiors have more work-related information than their employees.

Hofstede [1994, p.67] mentioned that in collectivist countries, in which the interest of the group prevails over the interest of individuals, an employer-employee relationship is perceived in moral terms like a family link. He also mentioned that in such societies harmony should always be mentioned and direct confrontations avoided. Therefore, it is expected that in collectivism countries the gap between superiors and their subordinates with respect to work-related information is less than the individualist ones.

Hofstede categorised Arab countries as collectivism and UK as an individualism one, and the Saudi were more collectivist than the other Arab countries. It is expected that information asymmetry in Saudi and Arab samples are perceived less than in the British one. Regarding H-I.9a&b and H-I.10, it is possible to argue the following changes in these hypotheses with respect to the culture.

- ◊ *When Saudi managers (locals) are in positions of having more information than their superiors, high budgetary participation will increase their motivation and decreases their slack.*
- ◊ *Although Arab managers (non-locals) share the Saudi managers cultural dimensions, they may feel less job security than the Saudi managers. Therefore, high budgetary participation by managers who are in positions of having more information than their superiors will increases their propensity to create slack and decreases their motivation.*

In table 6.2 (6.8) the Mann-Whitney test showed no significant difference between Saudi and Arab samples with respect to information asymmetry. Table 6-A-1 (p.6.38)

indicates that the mean of information asymmetry for both Saudi and Arab samples were less than the British sample. The Saudi mean (25.4) was almost close to the mid-point (24) where there is no information asymmetry between subordinates and their superiors, whereas it was higher for the Arab sample (27.5).

11-1-1-8-1 Information asymmetry as a contingent role between budgetary participation and motivation (H-I.9a).

Hypothesis H-I.9a states that when managers are in positions of having more information than their superiors, high budgetary participation increases their motivation to achieve budget. The result of the British sample shown in table 11-A-1 indicates that the signs computed in the whole model contradict those computed in the individual test, but neither were statistically significant, so both do not provide sufficient evidence for this hypothesis.

The result of the Saudi sample provided weak support to H-I.9a as the sign was in the anticipated direction. On the other hand, the result of the Arab sample strongly rejected this hypothesis. The results discussed in chapter nine showed that when the Arab managers (non-locals) are in positions of having more information the their superiors, budgetary participation decreases their motivation to achieve budget. Although this result was opposite to H-I.9a, it was consistent with the revised hypothesis. Thus these differences between the previous studies can be at least partially explained by cultural factors.

11-1-1-8-2 Information asymmetry as a contingent role between budgetary participation and slack (H-I.9b).

H-I.9b proposed that when managers' are in positions of having more information than their superiors, high budgetary participation increases their propensity to create slack. The result of the moderating approach of the British sample has strongly supported this proposition. The results of the Saudi and Arab samples in both moderating and intervening approaches were similar to the British *though they were statistically insignificant*.

Although the result of the Saudi sample provided weak support to H-I.9b, it was opposite to the revised hypothesis which was discussed in page (11.14). This may indicate that culture has no effect in this area for both locals and non-locals.

11-1-1-8-3 Information asymmetry and organisation size (H-I.10).

This research postulated that when organisation size increases, information asymmetry also increases. In other word, when an organisation size increases, subordinates hold more information than their superiors. The researcher expected that culture has no effect in this area. From table 11-A-1 we can see that this hypothesis was weakly supported for both British and Saudi samples, whereas the Arab has weakly rejected it.

11-1-1-9 Job difficulty as a contingent role between budgetary participation and performance (H-I.11).

Based on the literature review, H-I.11 postulated that when a job is difficult, high budgetary participation increases managerial performance. With reference to the expected effect of culture on this relationship, Hofstede [1994, table 5.2, p.125] mentioned that in strong uncertainty avoidance countries, people prefer acceptance of familiar risks, and they fear ambiguous situations and unfamiliar risks. On the other hand people in weak uncertainty avoidance countries are comfortable in ambiguous situations and with unfamiliar risks. From table 6.1 (p.6.2) we can see that Saudi and Arab countries reported higher scores on uncertainty avoidance than UK. Therefore, it is it is possible to argue the following changes in the related hypotheses with respect to the original one.

- ◊ *For Saudi and Arab managers Budgetary participation will enhance managerial performance when the job is less difficult.*

The results shown in table 11-A-1 indicate that the British sample weakly rejected H-I.11, whereas the Arab sample has strongly rejected this proposition. The result of the Arab sample which was discussed in chapter ten showed that high budgetary

participation decreases job difficulty which consequently increased their performance. In other word, budgetary participation enhanced Arab managers performance when job was less difficult. Although the results of the Arab sample rejected the original hypothesis it was consistent with the expected change in the revised hypothesis. The results of the Saudi sample show that the direction of the effect of the moderating approach contradicts that of the intervening approach, but as neither were statistically significant so they do not provide support for H-I.11. A possible reason for the differences between the Saudi and Arab samples is the effect of uncertainty avoidance, where "fear of ambiguous situations and unfamiliar risks" is high for non-local managers.

The most surprising result was that of the British sample. Based on studies which were conducted in countries which share similar cultural dimensions to the UK, it was expected that budgetary participation would enhance managerial performance when a job is difficult. The result of the British sample was opposite to those of Mia [1989] and Orpen [1992]. However, it is unlikely to attribute the differences between the results of this study and those of Mia [1989] and Orpen [1992] to the shorten measure used in this study.

11-1-2 Micro-level hypotheses

11-1-2-1 Budgetary participation and both performance and satisfaction (H-II.1a&b).

H-II.1 proposes that budgetary participation increases managers' performance and satisfaction. In table 6.1 (p.6.2) Hofstede's study reported high scores on power distance (80) for Arab countries. Saudi Arabia according to the study of At-Twaijri & Al-Muhaiza reported scores far lower than those reported by Hofstede (61). However, although the new score of power distance was less, it is still in the high level. On the other hand, Arab countries reported low scores on individualism (38) according to the study of Hofstede. Saudi Arabia reported a similar score (41) according to the study of

At-Twaijri & Al-Muhaiza. Again, both scores classified Saudi Arabia as a collectivist country.

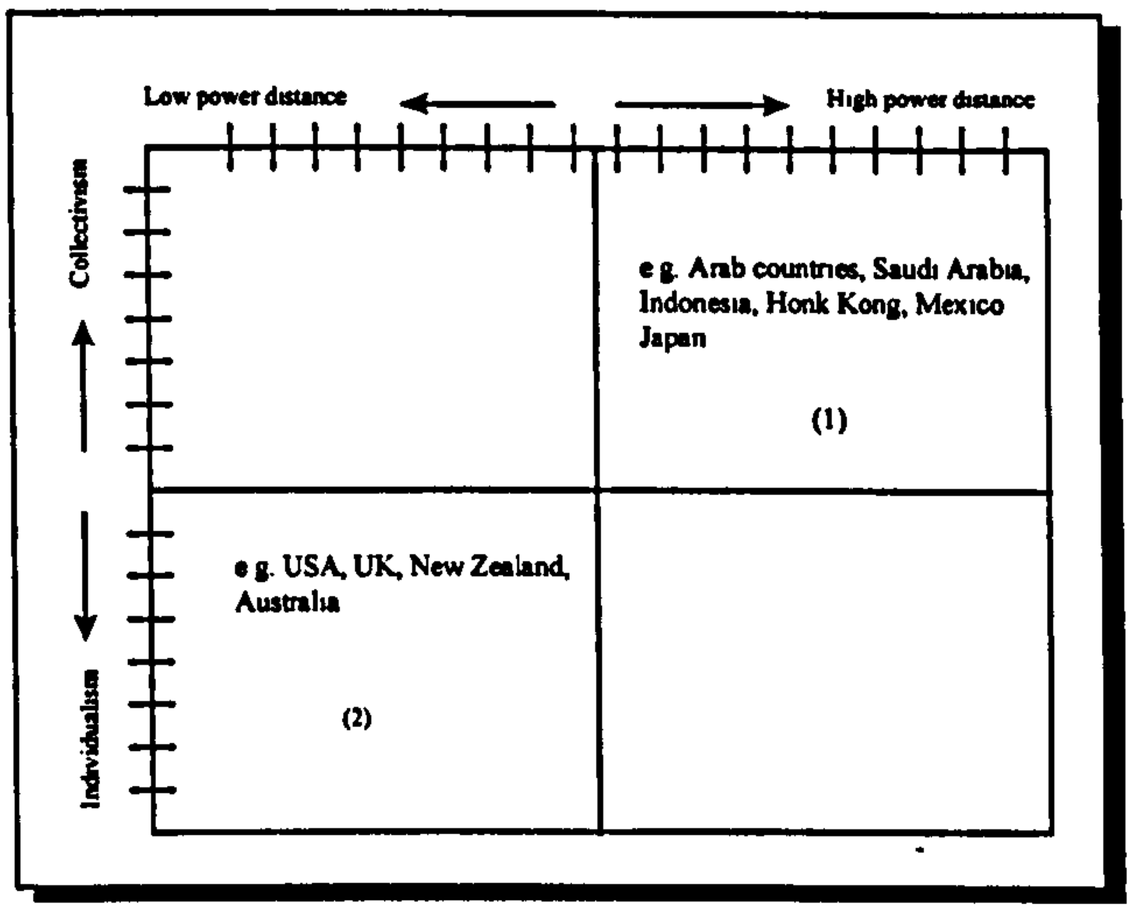
Hofstede [1980, 1994] mentioned that in high power distance countries centralisation is more popular and subordinates are expected to be told what to do. Participation, therefore, is likely to be exercised in low power distance countries than the high ones.

On the other hand, in high individualism country, every one looks after himself/herself and his/her immediate family. In contrast, in low individualism (collectivist) countries every one takes into consideration the interest of him/her self and the people around. Hofstede [1980, 1994] mentioned that in low individualism countries there is a belief in group decision making which is considered to be better than individual decision making. Management in the low level countries is management by groups. Therefore, participation in collectivism countries is likely to be more common.

It is clear that participation is likely to be exercised in countries which are characterised as low power distance and low individualism, whereas it is unlikely to be exercised in countries which are characterised as high power distance and high individualism. Hofstede [1994] mentioned that many countries which scored high power distance, scored low individualism. According to the figure of Hofstede which was divided into for quadrants, only one country falls in both low power distance and collectivism quadrant, while five fall in both high power distance and individualism. The rest countries fall either in high power distance/collectivism or low power distance/individualism. Figure 11.2 indicates this clearly.

Figure 11.2

Classification of the sites of the previous research in the area of budgetary participation according to their cultural dimensions



Harrison [1992] mentioned that the majority of countries, according to the results of Hofstede, have relative levels of both power distance and individualism that are compensatory in respect of their combined effect on the appropriateness of participation. He also argued that this compensatory effect allows the suggestion that there will be no difference in the appropriateness of participation between the companies which have a combination of high power distance and low individualism and vice versa.

According to the explanation of Harrison [1992], and although the literature witnessed contradictory results with respect to the effect of budgetary participation on both performance and satisfaction, this research does not expect any cultural effect on the relationship between budgetary participation and both managers' performance and satisfaction. Involving managers in budgetary process will insure, to some extent, realistic figures based on those managers' experience which imply their advanced approval, and thus this it will lead to higher performance and satisfaction.

The results shown in table 11-A-1 indicates that H-II.1a was strongly supported for both British and Arab samples, whereas it was weakly supported for the Saudi samples. With reference to the effect of budgetary participation on satisfaction the

results shown in table 11-A-1 indicate that this hypothesis (H-II.1b) was strongly supported in the three cultures.

The results of H-II.1a were consistent with the literature review. It supported Brownell [1982b] which was conducted in the USA, Frucot and Shearon [1991] which was conducted in Mexico, Nur [1993] which was conducted in Indonesia and Subramanian and Ashkanasy [1997] which was conducted in Australia. However, the result of the Saudi study was consistent with Gul et all [1995] which was conducted in Hong Kong as both found a positive relationship between budgetary participation and performance *though both were statistically insignificant*. The results of the three samples were contradictory to Lau et al [1995] which was conducted in Singapore, as they found a negative relationship between participation and managerial performance.

The results of H-II.1b supported the findings of Frucot and Shearon [1991] and Kenis [1979] which concluded a positive relationship between managers' participation in budgetary process and their satisfaction. It should be noted that managers performance and satisfaction were highly correlated only in the British and Arab samples. These results are logical as when managers perform well, they are also highly satisfied.

To provide unbiased comparison with the previous research which used only the global item of performance, the effect of budgetary participation on managerial performance was also tested using only this item. The results are shown in table 11.2 .

Table 11.2

The effect of different measures of performance on the relationship between BP and performance

	Budgetary Participation		
	British	Saudi	Arab
Performance (nine items)	0.565**	0.085	0.473**
Global Performance	0.480**	0.012	0.414*
n	59	46	34

** .01 * .05

From table 11.2 we can see that correlation coefficients using the nine items as a measure of performance were higher than the global one. These results provided evidence for the effectiveness of the measure used and also show that the results for both measures were consistent with the previous work in this area.

It should be noted that the mean of performance of the Arab sample as shown in table 6.2 (p.6.8) was significantly different than both Saudi and British ones. A possible interpretation for this result is non-locals (in general) may be feel less job security and that makes them do their best to perform better.

11-1-2-2 Perceived budgetary participation and subordinates participation (H-II.2).

H-II.2 states that when managers perceive a high degree of budgetary participation, they allow their subordinates high degree of participation. With respect to the expected effect of culture on this relationship, Hofstede [1994, table 3.3, p.67] mentioned that in collectivism countries harmony should be always maintained and relationship prevails over task. Therefore, the researcher argues that H-II.2 applies only for Saudi and Arab samples. The results shown in table 11-A-1 indicates that there was a negative relationship between managers participation in budgetary process and their subordinates participation in the three samples *though statistically insignificant*. The samples for this question were very small, so their results may be inconclusive.

11-1-2-3 Budget difficulty and clarity

Budget difficulty refers to the extent to which managers perceive their budget goals are difficult, whereas budget clarity refers to the extent to which budget goals are clear for those responsible for implementing them. This research postulated that when budget goals are difficult high budgetary participation increases managers' motivation to achieve budget (H-II.3a) and decreases their propensity to detect slack (H-II.3b). With reference to budget clarity, it was also postulated that when budget goals are clear, budgetary participation will increases managers' performance and satisfaction.

Hofstede's work can again be used to predict the effect of culture on these relationships. Hofstede [1994, table 5.2, p.125] mentioned that in strong uncertainty avoidance countries, people prefer acceptance of familiar risks, and they fear ambiguous situations and unfamiliar risks. He also argued that motivation in this category comes from security. On the other hand people in weak uncertainty avoidance countries are comfortable in ambiguous situations and with unfamiliar risks and they are motivated by achievement. From table 6.1 (p. 6.2) we can see that Saudi and Arab countries reported high scores on uncertainty avoidance comparing with UK. Therefore, it is it is possible to argue the following changes in the related hypotheses with respect to the original ones.

- ◊ *For the Saudi and Arab samples, budgetary participation will enhance managers' performance when budget goals are less difficult. On the other hand when budget goals are difficult, budgetary participation increases their propensity to create slack.*
- ◊ *For the British sample, when budget goals are clear, high participation will decreases their performance and satisfaction.*

11-1-2-3-1 The contingent role of budget difficulty between budgetary participation and both motivation and slack (H-II.3a&b).

The results shown in table 11-A-1 indicate that H-II.3a&b have been strongly supported for the British sample whereas they have been weakly rejected for both Saudi and Arab samples. Although the Saudi and Arab samples did not provide strong support for the two revised hypotheses, they were consistent with the expected changes. Overall there is limited support to the thesis that cultural differences help to explain the role of budget difficulty as a contingent variable between budgetary participation motivation and slack.

11-1-2-3-2 The contingent role of budget clarity between budgetary participation and both performance and satisfaction (H-II.4a&b).

With respect to H-II.4a&b, table 11-A-1 shows that both Saudi and Arab samples have strongly supported these two hypotheses whereas the British sample did not provide sufficient evidence for their results. These results show that both Saudi and Arab samples share some cultural characteristics which may be do not affect a particular relationship.

11-1-2-4 Locus of control as a contingent role between budgetary participation and slack (H-II.5).

H-II.5 proposed that locus of control has a contingent role between budgetary participation and slack. In other word, internal managers are less likely to create slack when they are involved in setting budget. It was not expected that culture will affect this hypothesis as locus of control mainly depends on human personality rather than the culture. Of course aspects of human personality are derived from culture as shown in figure 4.1 (p.4.3), but finally the effect of culture and human personality is summarised by the perception of an individual.

However, the results shown in table 11-A-1 indicate that the effect of locus of control as a contingent variable between budgetary participation and managers' propensity to create slack was strongly supported by both British (moderating approach) and Arab (intervening approach). Although the result of the Saudi sample was not significant, the signs of both approaches were in the expected direction providing some credibility for this hypothesis and its applicability across cultures.

11-1-2-5 Budgetary participation and budget motivation (H-II.6).

H-II.6 states that when managers participate in budgetary process they will be highly motivated to attain figures embodied in their department budget which implied their acceptance. Therefore, it is not expected that culture will cause any effect in this relationship. The results shown in table 11-A-1 indicates that the British sample has strongly rejected this hypothesis, whereas the Saudi sample provided weak support for

it. The Arab sample does not provide any sufficient evidence for this proposition as coefficients computed by correlation contradicted those obtained using the whole model, but neither were statistically significant, so it is difficult to draw a reliable conclusion from them.

The British result was disappointing as it was opposite to the literature. This result means that when managers participate in budgetary process they are less motivated to implement it. This result contradicts those of both Searfoss & Monczka [1973] and Kenis [1979]. To check this matter further correlation analysis was run between budgetary participation and both intrinsic and extrinsic motivation[1]. The results are shown in table 11.3

Table 11.3

The relationship between budgetary participation and extrinsic, intrinsic and overall motivation

	Budgetary Participation		
	British	Saudi	Arab
Extrinsic Motivation	0.059	0.162	0.380*
Intrinsic Motivation	-0.1	0.037	-0.129
Overall Motivation	-0.026	0.113	0.181
n	63	45	33

* .05

The results shown in table 11.3 indicate that extrinsic motivation (e.g. pay raise, promotion) had a positive effect with budgetary participation in the three culture and it was statistically significant for the Arab sample. Whereas budgetary participation had a negative relationship with the intrinsic motivation *though statistically insignificant*. The results of the Arab sample reveal that non-locals are highly motivated by extrinsic valences. A possible explanation for this that extrinsic motivation may be implies high

1. It was mentioned in section 6-1-5-11 that motivation was measured by both intrinsic and extrinsic valences.

job security to non-locals than the intrinsic ones, and it is also consistent with one of the aims of non-locals who come to Saudi Arabia which is earning money.

11-1-2-6 Motivation as a contingent role between budgetary participation and performance (H-II.7).

H-II.7 states that motivation has a moderating role between budgetary participation and managerial performance. This hypothesis was tested by Brownell and McInes [1986] and they found no significant intervening role between budgetary participation and performance. Whereas Mia [1988] re-tested this hypothesis using the moderating approach and he concluded a positive moderating role between budgetary participation and performance. Both studies tested motivation in the context of the expectancy theory. With respect to the effect of culture on this relationship, this research, as it has been argued in the previous section, does not expect that motivation has cultural differences.

The results of the three samples are shown in table 11-A-1. As shown the results was completely confusing in the three samples. The results of Saudi and Arab samples did not provide significance evidence about the effect of motivation as a contingent role between budgetary participation and managers' performance. But the most surprising results were those of the British sample. The result of the moderating approach for this sample provided strong support to the findings of Mia [1988] as motivation had a significant and positive contingent role between budgetary participation and performance. On the other hand, the result of the intervening approach was not consistent with that of the moderating approach.

In section 8-4 it was mentioned that the translation of H-II.7 according to the intervening approach is as follows: high budgetary participation increases managers motivation, which in turn increases their performance. Therefore, the rejection of this hypothesis means that high budgetary participation will decrease motivation which in turn increases performance. The following figures indicates that clearly.

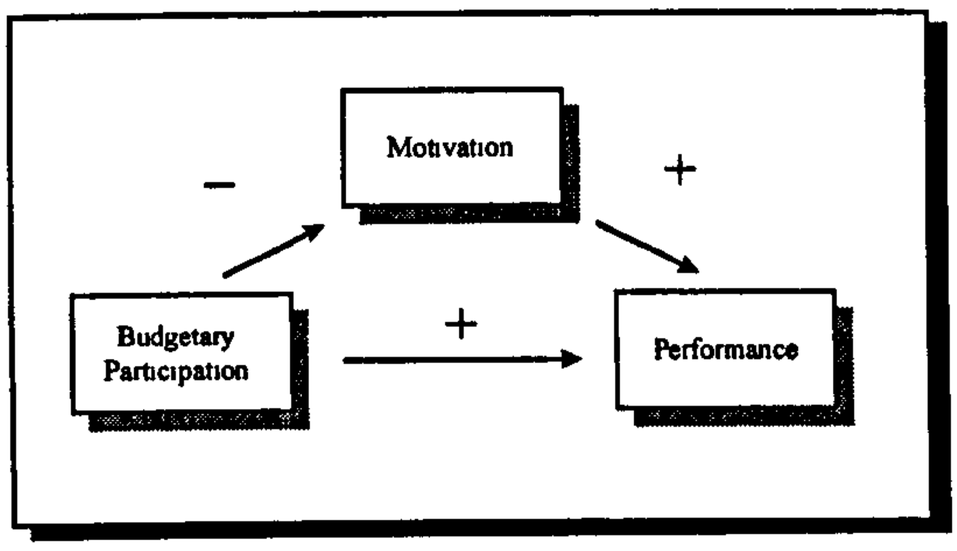


Figure 11.3

The result of using motivation as an intervening variable between budgetary participation and performance in UK

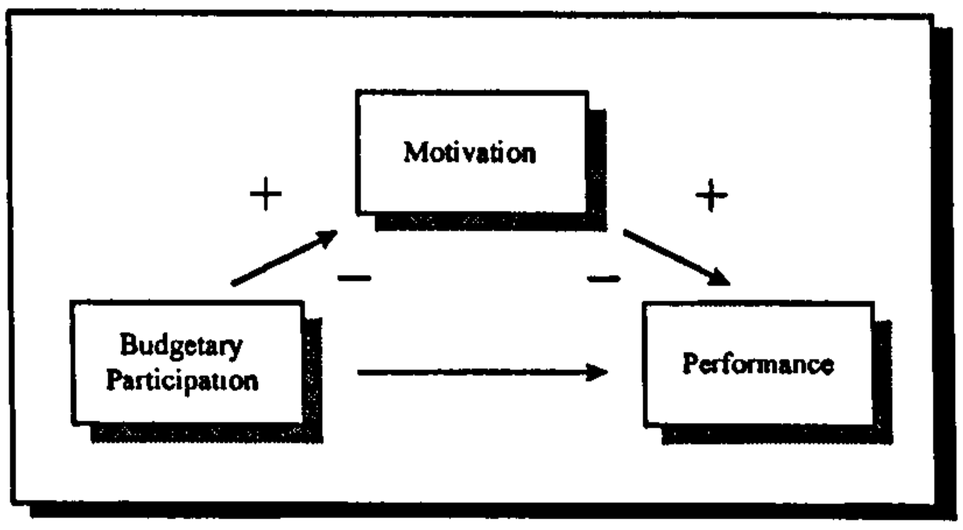


Figure 11.4

The positive and negative role of motivation on performance according to the intervening approach

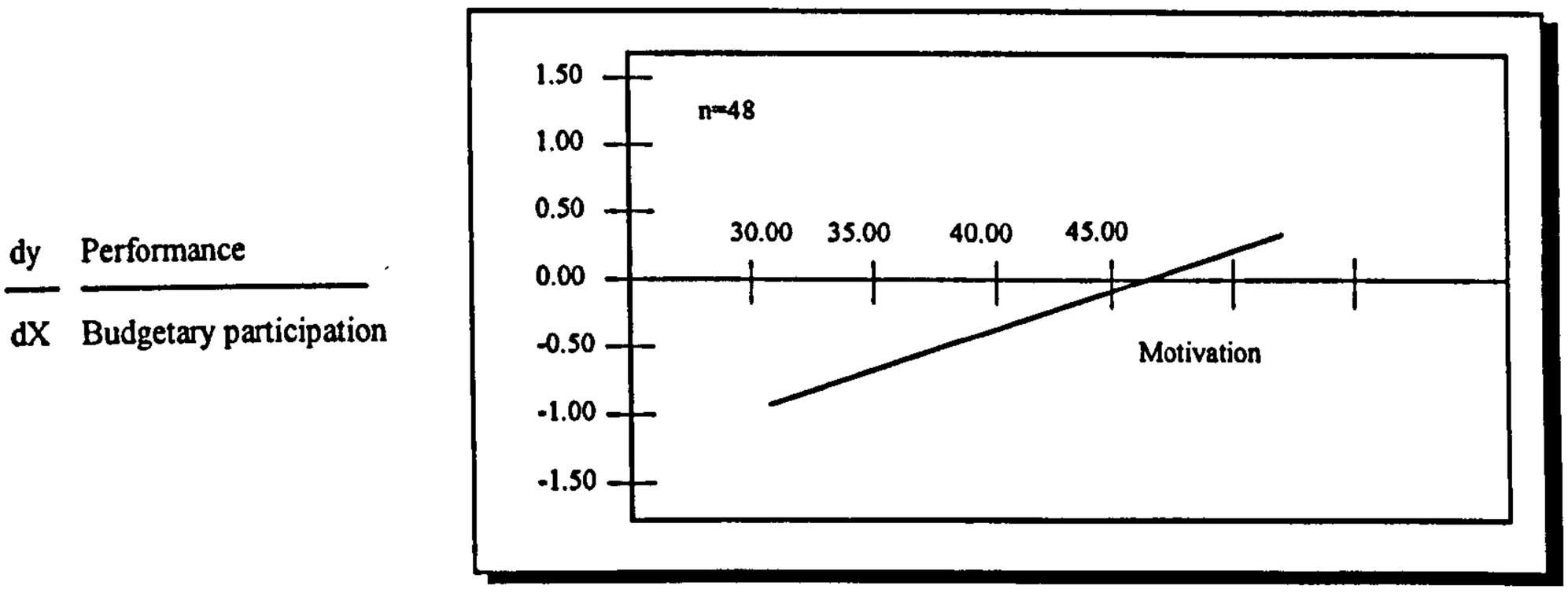
The result obtained from the intervening approach as shown in figure 11.3 indicates that budgetary participation had a negative and significant relationship with motivation, and motivation had in turn a positive relationship with performance. Although Brownell & McIness did not find a significant intervening role for motivation between participation and performance, the signs of the effect in this study were consistent with their results. For example, they found a positive relationship between performance and both motivation and budgetary participation as shown in figure 11.3. On the other hand they stated that (p.597) the most important findings in their study was the negative relationship between participation and *IVs* in the expectancy model.

The results of the individual test for this hypothesis also found a positive relationship for performance with both motivation and participation, whereas the coefficient of the relationship between participation and motivation was quite small (.008) so it is difficult to draw a reliable conclusion from it.

From table 11-A-1 we can see that the sample size of the whole model (intervening approach) was 48, whereas the sample size of the moderating approach was 58. Therefore, it was necessary to check whether or not the sample sizes have an effect on this conflicting results. To do so the moderating role of budget motivation was tested again using the same sample of the whole model. The results are shown in the following figure.

Figure 11.5

The moderating role of motivation between BP and performance



The result shown in figure 11.5 indicates that motivation had a positive and significant moderating role (scores over 46.5, $p \leq 0.1$) between budgetary participation and performance. This result is consistent with those shown in table A-D-1 (appendix D at the end of the thesis) which supported the argument that the sample size has no effect on this relationship. However, where the result of the moderating approach was consistent with Mia [1988] and the result of the intervening approach -to some extent- consistent with Brownell & McIness [1986], the problem could be attributed to the theory itself. Brownell & McIness [ibid.] mentioned (p.598) that expectancy models have sometimes shown a rather weak relationship to effort and performance. This may reveal that this matter needs further investigation as the results of Saudi and Arab sample could not provide evidence to this hypothesis as *they were statistically insignificant*.

11-1-2-7 Motivation as a contingent role between budgetary participation and satisfaction (H-II.8).

H-II.8 states that motivation has a positive contingent role between budgetary participation and managers' satisfaction. The results shown in table 11-A-1 indicate that this proposition was weakly rejected for both British and Saudi samples in the two approaches adopted in this study. Whereas the Arab sample provided contradictory results from the two methods and thus little evidence to support or reject the hypothesis.

11-1-2-8 Budgetary slack.

It was mentioned in section 3-6 that budgetary slack implies that managers intentionally build excess requirements for resources into the budgets, or knowingly understate productive capability. The reason behind this phenomenon is to protect themselves against uncertainty as they are dealing with future. Hofstede, as indicated in many place in this chapter, mentioned that people in strong uncertainty countries prefer acceptance of familiar risks, and they fear of ambiguous situations and unfamiliar risks. On the other hand, people in weak uncertainty avoidance countries are comfortable in ambiguous and with unfamiliar risks. As Saudi Arabia and Arab countries reported high scores in this dimension, therefore, it is it is possible to argue the following changes in the related hypotheses with respect to the original ones for Saudi and Arab samples.

- ◊ *For Saudi and Arab sample, Managers' participation in budgetary process increases their propensity to create slack.*
- ◊ *When Saudi and Arab managers have high propensity to create slack, high participation increases their performance.*

With respect to the effect of culture on H-II.10 which argues that when superiors have high ability to detect slack, high participation will decreases their slack, no cultural differences is expected as it depends on the policy of an organisation rather than the culture itself.

From table 6.2 (p.6.8) we can see that there was no significant differences between Saudi and Arab samples with respect to budgetary slack, whereas both of them were significantly different from the British sample. This result provides evidence that the propensity of slack is similar between these to samples. Table 6-A-1 (p.6.38) shows that both Saudi and Arab samples reported similar means to budgetary slack which was lower than the British managers. Although the results of Saudi and Arab samples were unexpected, they were consistent with those of Ueno and Wu [1993] who noticed that managers in Japan were less likely to create slack than USA managers. In figure 11.2

Japan was categorised as high power distance, strong uncertainty avoidance, whereas UK was similar to USA cultural dimensions.

The results of the three samples showed that there was insignificant relationship between budgetary participation and managers' propensity to create slack. The direction of the effect of both British and Arab sample were consistent with H-II.9, whereas the result of the Saudi sample was opposite to it, but on the other hand was consistent with the expected change which was argued to the original hypothesis. Again, although the result of the Arab sample was consistent with the original hypothesis it was opposite to the expected change which was based on the cultural differences. There are two possible explanations for the result of the Arab sample. First, from table 6.1 (p.6.2) we can see that the Saudi managers reported very high scores on uncertainty avoidance compared with the Arab sample which may lead to this difference between these two samples. Second, it is possible to argue that when Arab managers (non-locals) participate in budgetary process, they may feel more job security when they participate in budgetary process which may lead them to decreases their propensity to create slack.

Although the results of both British and Arab samples were not significant, the direction of the effect was consistent with the results of Onsi [1973] and Merchant [1985] who found that participative budgets and budgetary slack are negatively related.

The results shown in table 11-A-1 indicate that the British sample provided strong rejection to H-II.11 as budgetary participation enhanced managers' performance when budgetary slack was high. The results of both Saudi and Arab samples did not provide sufficient evidence for this hypothesis as results from one approach contradicted those from another, but where neither were statistically significant, therefore, it is not possible to draw conclusions from them.

On the other hand, the results of both British and Arab sample did not provide sufficient evidence for both H-II.10 & H-II.12, whereas the Saudi result has weakly rejected these hypotheses. With respect to H-II.10, the result shows that when superiors ability to detect slack is low, high participation decreases managers' propensity to create slack. With reference to H-II.12, the results means that budgetary participation enhanced

managers' satisfaction when slack is high, but the result was opposite to that. However, no possible explanations could be provided for these two results.

11-2 Summary and conclusion

11-2-1 Brief summary and conclusion.

The area of budgetary participation has been investigated extensively by many scholars over the past three decades. This issue started when some researchers found that imposed budget or "pseudo-participation" has negative consequences on managers attitudes toward their job and companies (e.g. performance and satisfaction). Budgetary participation was perceived as the suitable approach to provide those managers with favourable attitudes towards their job and organisation. Initially it was expected that such favourable attitudes would be universal, but some studies found different results.

Some scholars reported either negative or insignificant association between budgetary participation and managers attitudes toward their job and organisations. Therefore the contingency theory was applied in this area to reconcile these contradictory findings. Efforts have been made to find out which variables may play contingent roles between budgetary participation and both managers' performance and satisfaction. The results uncovered the fact that many organisational variables (e.g. organisation size, environment uncertainty, leadership style, style of evaluation) as well as behavioural variables (e.g. locus of control, motivation, slack) had the expected contingency roles. Finally culture has been used as a possible contingent role which may reconcile this conflicting area. Many researchers adopted Hofstede's cultural dimensions and applied these in different countries.

Prompted by the inconclusive results in this area, this research was designed to provide more insight into this issue. First of all, the limitations of the previous work were considered carefully to provide a base for this study. Some of the many limitations of the previous research are set out below.

- ◊ Much of the previous work considered a limited number of variables which consequently limited their results.

- ◊ The researchers who adopted a model and replicated it did not use a precise replication. They either used different measures or applied it in different cultures.
- ◊ Two analytical approaches were used to test the contingency model, namely, the moderating and intervening. Although they are complementary, very few attempts have been made to apply both to test a particular model.
- ◊ Most of the previous attempts which investigated the effect of culture in this area of research used samples from two different countries. Little attention has been paid to test a particular model using two samples of managers (locals and non-locals) within the single country.

Based on the points discussed above, this research was designed to fill in the gaps in this area in three ways. First, an integrative model was developed. This model consisted of the most important eighteen variables which have been frequently used in the literature. The proposed model consisted of twenty eight hypotheses. Some hypotheses were replications to assess the robustness of previous results, whereas the rest were developed to investigate matters that had not received much attention so far. Second, the proposed model was designed to be tested using both the moderating and intervening approaches to provide sufficient support for this model. Third, the proposed model was applied in two different countries. Saudi Arabia and UK were chosen because they are culturally different. In Saudi Arabia two samples were also selected from Saudi (locals) and Arab (non-locals) managers.

The overall sample used in this study consisted of 65 British managers from 20 companies, 51 Saudi managers from 15 companies, and 40 Arab managers from 17 companies. The conclusion of the results with respect to the main issues of this study are discussed below.

First - The results of the integrative model adopted in this study provided a clear picture which summarised systematically the relationship between macro and micro

level variables. The results showed that the contingency variables (technology, organisation size, environment uncertainty) were the main determinants of budgetary participation. Budgetary participation had a positive direct effect on managers' performance and satisfaction. The results showed that there were many organisational variables (e.g. budget emphasis, job difficulty) as well as behavioural variables (e.g. locus of control, motivation, slack) which played contingent roles between budgetary participation and both performance and satisfaction.

Second - with respect to the effect of culture, the results revealed that budgetary control practices are culturally dependent. The findings of this study showed that there are substantial cultural differences between UK and Saudi Arabia. Even within the Saudi Arabia, budgetary control practices are different in some aspects between Saudis (locals) and Arab (non-locals). For example the British results found that budget emphasis had a positive contingent role between budgetary participation and motivation to achieve their budget. Budget goal difficulty had a negative contingent role between budgetary participation and managers' propensity to create slack. Budgetary slack had a positive contingent role between managers' participation and their performance. Whereas such roles were not observed in the Saudi and Arab samples.

On the other hand, there were dissimilarities between Saudi and Arab samples in some aspects. For example, budgetary participation had a positive impact on Arab managers' performance; technology (product standardisation) had a positive impact on budgetary participation; budget emphasis had a positive contingent role between budgetary participation and managers' satisfaction; budgetary participation had a significant positive relationship with managers' performance. Such aspects were not observed in the Saudi sample.

The study has revealed similarities in many aspects between the three samples. For example, the negative effect of environment uncertainty on budgetary participation, the positive role of budgetary participation on managers' satisfaction, the positive role of organisation size on budgetary participation were culturally independent.

Third, with respect to the effect of the analytical approach, the study found that both moderating and intervening approaches are complementary and necessary to explore any contingent role. More specifically, this research found that some contingent roles were supported by an approach whereas the other approach did not support these roles. For example the contingent role of job difficulty for the Arab sample was revealed using the intervening approach whereas the moderating approach did not provide significant evidence for this role. The negative contingent role of budget emphasis between budgetary participation and British managers' performance was revealed by the intervening approach whereas the moderating approach did not support that.

However, the results generally showed that although there was a direct relationship between budgetary participation and both managers' performance and satisfaction, there were also indirect relationships through various organisational and behavioural variables. The integration of macro and micro level variables, the effect of culture, the analytical approach all of these aspects are important to understand the positive and negative effects of participatory budget approach.

11-2-2 Research limitations and issues for further research.

As with any research, this study has also its limitations. These limitations will be highlighted as they should inform further research. The first limitation was considered earlier in chapter 6 that the samples in this study were small and selected non-randomly. So it is possible to apply the proposed model using a big and random sample either in various organisations or in a single one.

Although this research argued that culture has an effect on budgetary control practices, it did not employ any cultural measures. Therefore, it is possible to apply the proposed model in two different countries using Hofstede's cultural dimensions to test what dimensions affect a particular relationship.

To check whether national culture prevails over the host culture, it is possible to apply the proposed model using two samples of managers who have the same nationality but work in different countries. For example, it would be possible to select

two samples of Saudi managers, one who work in Saudi Arabia and other working in UK.

Appendix of Chapter Eleven

Table 11-A-1

Summary of the results of British, Saudi, and Arab samples

Macro-level hypotheses				British Sample (Locals)			Saudi Sample (Locals)			Arab Sample (Non-locals)		
Number of hypotheses	Nature of the hypotheses	Expected effect	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-I.1	Organisation size and budgetary participation	Positive	p.2.8	S 64	WS 46	S 64	WS 40	WS 31	WS 40	WS 26	WR 10	WS 26
H-I.2	Environment uncertainty and budgetary participation	Positive	p.2.10	R 62	WR 46	R 62	R 35	R 31	R 35	R 29	WR 10	R 29
H-I.3	Process automation and budgetary participation	Positive	p.2.13	WS 50	WS 46	WS 50	WR 35	WR 31	WR 35	S 16	WS 10	S 16
H-I.4	Product standardisation and budgetary participation	Negative	p.2.14	WS 50	WR 46	WS 50	WR 38	WR 31	WR 38	WR 16	WR 10	WR 16
H-I.5	Leadership style as a contingent role between BP and motivation	I - Negative C - Positive	p.2.18	WS 62	WR 48	WR 62	WR 44	WR 32	WR 44	WR 32	WR 23	WR 32
H-I.6	Initiation structure and budget emphasis	Positive	p.2.18	WR 63	N/A	WR 63	WR 50	N/A	WR 50	S 38	N/A	S 38
H-I.7a	Budget emphasis as a contingent role between BP and performance	Positive	p.2.25	WR 59	WR 48	WR 59	WR 46	WS 32	WR 46	WR 34	R 23	WS 34
H-I.7b	Budget emphasis as a contingent role between BP and satisfaction	Positive	p.2.25	WR 60	WS 48	WR 60	WR 45	WS 32	WR 45	N/S 32	WR 23	S 32
H-I.8	Budget emphasis as a contingent role between BP and motivation	Positive	p.2.25	S 62	WS 48	WS 62	WR 45	WS 32	WS 45	WS 32	WR 23	WS 32
H-I.9a	Inform. asymmetry as a contingent role between BP and motivation	Positive	p.2.28	WS 62	WR 48	WS 62	WS 45	WS 32	WS 45	R 32	WR 23	WS 32
H-I.9b	Inform. asymmetry as a contingent role between BP and slack	Positive	p.2.28	S 62	WR 48	WS 62	WS 47	N/S 32	WS 47	WS 35	WS 23	WS 35
H-I.10	Information asymmetry and organization size	Positive	p.2.28	WS 64	N/A	WS 64	WS 40	N/A	WS 40	WR 28	N/A	WR 28
H-I.11	Job difficulty as a contingent role between BP and performance	Positive	p.2.30	WR 58	WR 48	N/S 58	WS 46	WR 32	WR 46	WR 32	WR 23	R 32

S - Supported "statistically significant", and the sign in the expected direction
WS - Weakly supported "statistically insignificant", but the sign in the expected direction
N/A - Not applicable.
Number below signs refer to number of cases

R - Rejected "statistically significant", but the sign in the unexpected direction
WR - Weakly rejected "statistically insignificant", but the sign in the unexpected direction
N/S - No sufficient evidence, this means coefficients are so close to zero (i.e. .0001) that would be misleading to attribute a definite sign to the coefficient.

Table 11-A-1 continued

Micro-level hypotheses				British Sample (Locals)			Saudi Sample (Locals)			Arab Sample (Non-locals)		
Hypotheses number	Nature of the hypotheses	Expected effect	Page No.	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually	Moderating approach	Path Analysis Whole model	Path Analysis Individually
H-II.1a	Budgetary Participation and performance	Positive	p.3.7	S 59	S 48	S 59	WS 46	WS 32	WS 46	S 34	S 23	S 34
H-II.1b	Budgetary Participation and satisfaction	Positive	p.3.7	S 61	S 48	S 61	WS 45	S 32	WS 45	S 33	WS 23	S 33
H-II.2	Managers and subordinates participation in budgetary process	Positive	p.3.8	WR 33	N/A	WR 33	WR 29	N/A	WR 29	WR 21	N/A	WR 21
H-II.3a	Budget difficulty as a contingent role between BP and motivation	Positive	p.3.10	WS 63	WR 48	S 63	WR 43	WR 32	WR 43	WR 31	WR 23	N/S 31
H-II.3b	Budget difficulty as a contingent role between BP and slack	Negative	p.3.10	WS 63	S 48	S 63	WR 46	WR 32	WR 46	WR 34	WR 23	WR 34
H-II.4a	Budget clarity as a contingent role between BP and performance	Positive	p.3.11	WR 59	WR 48	WS 59	WS 45	WS 32	WS 45	WR 33	WS 23	S 33
H-II.4b	Budget clarity as a contingent role between BP and satisfaction	Positive	p.3.11	WR 61	WR 48	WS 61	WS 43	WR 32	S 43	WS 31	WS 23	S 31
H-II.5	Locus of control as a contingent role between BP and slack	I - Positive E - Negative	p.3.15	S 61	WS 48	WR 61	WS 47	WS 32	WS 47	WS 34	S 23	WS 34
H-II.6	Budgetary participation and budget motivation	Positive	p.3.18	WR 63	R 48	WR 63	WS 45	WS 32	WS 45	WS 33	WR 23	WS 33
H-II.7	Budget motivation as a contingent role between BP and performance	Positive	p.3.19	S 58	R 48	NS 58	WS 41	WR 32	WR 41	WR 30	WR 23	WS 30
H-II.8	Budget motivation as a contingent role between BP and satisfaction	Positive	p.3.19	WR 60	WR 48	WR 60	WR 40	WR 32	WR 40	WR 30	WR 23	WS 30
H-II.9	Budgetary Participation budgetary slack	Negative	p.3.22	WS 63	N/S 48	WS 63	WR 48	WR 32	WR 48	WS 35	WS 23	WS 35
H-II.10	Superior ability to detect slack as a contingent role between BP and slack	Negative	p.3.22	WS 59	WR 48	WS 59	WR 48	WR 32	WR 48	WS 39	WR 23	WS 39
H-II.11	Budgetary slack as a contingent role between BP and performance	Negative	p.3.23	R 59	WR 48	WR 59	WR 45	WS 32	WS 45	WS 32	WR 23	WS 32
H-II.12	Budgetary slack as a contingent role between BP and satisfaction	Positive	p.3.23	WR 60	WS 48	WR 60	WR 43	WR 32	WR 43	WR 31	WR 23	WS 31

S - Supported "statistically significant", and the sign in the expected direction
WS - Weakly supported "statistically insignificant", but the sign in the expected direction
N/A - Not applicable.
Number below signs refer to number of cases

R - Rejected "statistically significant", but the sign in the unexpected direction
WR - Weakly rejected "statistically insignificant", but the sign in the unexpected direction
N/S - No sufficient evidence, this means coefficients are so close to zero (i.e. .0001) that would be misleading to attribute a definite sign to the coefficient.

References

Abernethy, M. and P. Brownell, 1997, Management Control Systems in Research and Development Organizations: The Role of Accounting, Behavior and Personnel Controls, Accounting, Organizations and Society, pp. 233-247.

Aldrich, H., 1972, Technology and Organization Structure: A Re-examination of the Findings of the Aston Group", Administrative Science Quarterly, pp. 26-43.

Aranya, N., 1990, Budget Instrumentality, Participation and Organizational Effectiveness, Journal of Management Accounting Research, pp. 67-77.

Argyris, C., 1952, The impact of budget on people, Ithaca: The controllership Foundation, Inc., Cornell University.

Argyris, C., 1953, Human Problem with Budgets, Harvard Business Review, pp. 97-110.

At-Twaijri M., and I. Al-Muhaiza, Hofstede's Cultural Dimensions in the GCC Countries: An Empirical Investigation, Working Paper, Dhahran: King Fahd University of Petroleum and Minerals.

Babbie, E., 1990, Survey Research Methods, Belmont: Wadsworth Publishing Company.

Barfield, J., C. Raiborn, and M. Kinney, 1998, Cost Accounting: Traditions and Innovations, USA: South-Western College Publishing.

Becker, S., and D. Green, 1962, Budgeting and Employee Behavior, The Journal of Business, pp. 392-402.

Bilbeisi, K., 1989, Culture Effects on the Relationships Between Budgetary Participation Managerial Performance, Unpublished Ph.D. Dissertation, University of Mississippi.

Blau, P., 1972, Interdependence and Hierarchy in Organizations, Social Science Research, pp. 1-24.

Boyle, R., 1969, Path Analysis and Ordinal Data, American Journal of Sociology, pp. 461-480.

Brayfield, A., 1951, An Index of Job Satisfaction, Journal of applied Psychology, pp. 307-311.

Brislin, R., 1970, Back-Translation for Cross-Cultural Research, Journal of Cross-Cultural Psychology, pp. 185-216.

Brownell, P., 1981, Participation in Budgeting, Locus of Control and Organizational Effectiveness, The Accounting Review, pp. 844-860.

Brownell, P., 1982a, A field Study Examination of Budgetary Participation and Locus of Control , The Accounting Review, pp. 766-777.

Brownell, P., 1982b, The Role of Accounting Data in Performance Evaluation, Budgetary Participation, and Organization Effectiveness, Journal of Accounting Research, pp. 12-27.

Brownell, p., 1982c, Participation in Budgeting Process : When it Works and When it Doesn't, Journal of Accounting Literature, pp. 125-150.

Brownell, P., 1983, Leadership Style , Budgetary Participation and Managerial Behavior , Accounting , Organization and Society, pp. 307-321.

Brownell, P., 1985, Budgetary Systems and the Control of Functionally Differentiated Organizational Activities, Journal of Accounting Research, pp. 502-512.

Brownell, P., and M. Hirst, 1986, Reliance on Accounting Information, Budgetary Participation, and Task Uncertainty: Tests of a three-way Interaction, Journal of Accounting Research, pp. 241-249.

Brownell, P., and M., McInnes, 1986, Budgetary Participation, Motivation and Managerial Performance, The Accounting Review, pp. 587-600.

Brownell, P. and K. Merchant, 1990, The budgetary and performance influences of product standardization and Manufacturing Process Automation, Journal of Accounting Research, pp. 388-397.

Brownell, P., and A. Dunk, 1991, Task Uncertainty and its Interaction and Budget Emphasis: Some Methodological Issues and Empirical Investigation, Accounting, Organization and Society, pp. 693-703.

Bruns, W. and J. Waterhouse, 1975, Budgetary control and organization structure, Journal of accounting research, pp. 177-203.

Chenhall, R. and P. Brownell, 1988, The Effect of Participative Budgeting on Job Satisfaction and Performance: Role Ambiguity as Intervening Variable, Accounting, Organization and Society, pp. 225-233.

Chiu, C., and H., Hui, 1982, Locus of control: A Review of Cross-Cultural Research, International Journal of Intercultural Relations, pp. 301-323.

Choo, F., and K., Tan, 1997, A Study of the Relations Among Disagreement in Budgetary Performance Evaluation Style, Job-Related Tension, Job Satisfaction and Performance, Behavioural Research in Accounting, pp. 199-218.

Chow, C., Cooper, J., and W. Waller, 1988, Participative Budgeting: Effects of A Truth-Inducing Pay Scheme and Information Asymmetry on Slack and Performance, The accounting review, pp. 111-122.

Collins, F., 1978, The Interaction of Budget Characteristics and Personality Variables with Budgetary Response Attitudes, The Accounting Review, pp. 324-335.

Cronbach, L., 1951, Coefficient Alpha and the Internal Structure of Tests, Psychometrika, pp. 297-334.

Curry, J., D. Wakefield, J. Price, and C. Mueller, 1986, On the Causal Ordering of Job Satisfaction and Organizational Commitment, Academy of Management Journal, pp. 847-858.

Cyert, R., and J. March, 1992, A Behavioural Theory of the Firm, Oxford: Blackwell Publisher.

DeCoster, D., and J. Fertakis, 1968, Budget-Induced Pressure and its Relationship to Supervisory Behavior , Journal of Accounting Research, pp. 237- 246.

Duncan, R., 1972, Characteristics of Organizational Environments and Perceived Environmental Uncertainty, Administrative Science Quarterly, pp. 313-327.

Duncan, O., 1966, Path Analysis: Sociological Examples, The American Journal of Sociology, pp. 1-16.

Dunk, A., 1989, Budget Emphasis, Budgetary Participation and Managerial Performance: A Note, Accounting, Organization and Society, pp. 321-324.

Dunk, A.,1992, Reliance on Budgetary Control, Manufacturing Process Automation and Production Subunit Performance: A Research Note, Accounting, Organization and Society, pp. 195-203.

Dunk, A.,1993, The Effect of Budget Emphasis and Information Asymmetry on the Relation Between Budgetary Participation and Slack , The Accounting Review, pp. 400-410.

Dunk, A.,1995a, The Differential Effect of Information Asymmetry on the Relationship Between Budgetary Participation and Departmental Performance, Advances in Management Accounting, 147-161.

Dunk, A., 1995b, The Joint Effect of Budgetary Slack and Task Uncertainty on Subunit Performance, Accounting and Finance, pp. 61-75.

Dunk, A. and M. Lal, 1995, Participative Budgeting, Manufacturing Automation, Product Standardization, and the Propensity of Managers to Create Budgeting Slack, Unpublished Paper, British Accounting Association Annual Conference.

Dunk, A., 1996, An Examination of the Relation Between Reliance on Budgetary Control and Production Subunit Performance: The Influence of Manufacturing Process Automation and Task Uncertainty, Advances in Management Accounting, pp. 99-114.

Dunk, A., 1997, The Incidence of Budgetary Slack: a Field Study Exploration, Accounting, Auditing & Accountability, pp. 649-664.

Emmanuel, C., D., Otley and K. Merchant, Accounting for management control, London: Champion & Hall 1990.

Ezzamel, M., and H. Hart, 1987, Advanced Management Accounting: An Organizational Emphasis, London: Cassell Educational Limited.

Ezzamel, M., 1990, The Impact of Environment Uncertainty, Managerial Autonomy and Size on Budget Characteristics, Management Accounting Research, pp. 181-197.

Ferris, K., 1977a, Perceived Uncertainty and Job Satisfaction in the Accounting Environment, Accounting, Organization and Society, pp. 23-28.

Ferris, K., 1977b, A Test of the Expectancy Theory of Motivation in an Accounting Environment, The Accounting Review, pp. 605-615.

Flynn, B., R. Schroeder, and S. Sakakibara, 1995, The Impact of Quality Management Practices on Performance and Competitive Advantages, Decision Science, pp. 659-691.

Foran, M., and D. DeCoster, 1974, An Experimental Study of the effects of Participation, Authoritarianism , and Feedback on Cognitive Dissonance in Standard Setting Situation, The Accounting Review, pp. 751-763.

French, J., E., Kay, and H. Meyer, 1966, Participation and the Appraisal System, Human Relation, pp. 3-20.

Frucot, V., and W. Shearon, 1991, Budgetary Participation, Locus of Control, and Mexican Managerial Performance and Job Satisfaction, The Accounting Review, pp. 80-99.

Gary, S., 1988, Towards A Theory of Cultural Influence on the Development of Accounting Systems Internationally, Abacus, pp. 1-15.

Gordon, L. & D. Miller, 1976, A Contingency Framework for the Design of Accounting Information Systems, Accounting, Organization and Society, pp. 59-70.

Govindarajan, V., 1984, Appropriateness of Accounting Data in Performance Evaluation: An Empirical Examination of Environmental Uncertainty as an Intervening Variable, Accounting, Organization and Society, pp. 125-135.

Govindarajan, V., 1986, Impact of Participation in the Budgetary Process on Managerial Attitudes and Performance: Universalistic and Contingency Perspectives, Decision Sciences, pp. 496-516.

Griffin, L., 1996, The Effects of Participatory Budgeting on Both the Attractiveness of Budgetary Compliance and Motivation, Advances in Management Accounting, pp.169-187.

Grove, H., and R. Savich, 1979, Attitude Research in Accounting: A Model for Reliability and Validity Considerations, The Accounting Review, pp. 522-537.

Gul, F., and Y., Chia, 1994, The Effects of Management Accounting Systems, Perceived Environment Uncertainty and Decentralization on Managerial Performance: A Test of three-way Interaction, Accounting, Organization and Society, pp. 413-426.

Gul, F., Tsui, J., Fong, S., and H. Kwok, 1995, Decentralization as a Moderating Factor in the Budgetary Participation-Performance Relationship: Some Hong Kong Evidence, Accounting and Business Research, pp. 107-113.

Gupta, A., and V., Govindarajan, 1984, Business Unit Strategy, Managerial Characteristics and Business Unit Effectiveness at Strategy Implementation, Academy of Management Journal, pp.25-41.

Hage, J. and M. Aiken, 1969, Routine Technology, Social Structure and Organizational goals, Administrative Science Quarterly, pp. 366-376.

Harrison, G., 1992, The Cross-Culture Generalizability of the Relation Between Participation, Budget Emphasis and Job Related Attitudes, Accounting, Organization and Society, pp. 1-15.

Harrison, G., 1993, Reliance on Accounting Performance Measures in Superior Evaluation Style - The Influence of National Culture and Personality, Accounting, Organizations and Society, pp. 319-339.

Harry, H., Fechner, and A. Kilgore, 1994, The Influence of Cultural Factors on Accounting Practice, The International Journal of Accounting, pp. 265-277.

Hayes, D., 1977, The Contingency Theory of Management Accounting, Accounting Review, pp. 22-39.

Hayes, R., S., Wheelright, and K., Clark,1988, Dynamic Manufacturing: Creating the Learning Organization, New York: The Free Press.

Heneman, H., 1974, Comparisons of Self and Superiors Ratings of Managerial Performance, Journal of Applied Psychology, pp. 638-642.

Hirst, M., 1983, Reliance on Accounting Performance Measures, Task Uncertainty , and Dysfunctional Behavior: Some Extensions, Journal of Accounting Research, pp. 596-605.

Hirst, M., 1987, Some Further Evidence on the Effects of Budget Use and Budget Participation on Managerial Performance, Australian Journal of Management, pp. 49-56.

Hofstede, G., 1968, The Game of Budgetary Control, London, Tavistock.

Hofstede, G, 1980, Culture's Consequences: International Differences in Work-Related Values, London: Sage Publications.

Hofstede, G., 1984, Culture's Consequences: International Differences in Work-Related values, Abridged Edition, London: Sage.

Hofstede, G., B. Neuijen, D. Ohayv, and G. Sanders, 1990, Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases, Administrative Science Quarterly, pp. 286-316.

Hofstede, G., 1994, Cultures and Organizations: Software of Mind, UK, McGraw-Hill.

Hofstede, G., 1996, An American in Paris: The Influence of Nationality on Organisation Theories, Organization Studies, pp. 525-537.

Hopwood, A., 1972, An Empirical Study of the Role of Accounting Data in Performance Evaluation , Journal of Accounting Research, pp. 156-182.

Hopwood, A., 1974, Leadership Climate and the Use of Accounting Data in Performance Evaluation, The Accounting Review, pp. 485-495.

Horngren, C., G. Foster, and S. Datar, 1997, Cost Accounting: A Managerial Emphasis, London: Prentice-Hall International.

Huczynski, A., and D. Buchanan, 1991, Organizational Behavior, London: Prentice-Hall.

Kahn, R., D. Wolfe, R. Quinn, J. Snoek, and R. Rosenthal, 1964, Organizational Stress: Studies in Role Conflict and Ambiguity, Toronto: John Wiley and Sons.

Inkson, J., D. Pugh, and J. Hickson, 1970, Organization Context and Structure: An Abbreviated Replication, Administrative Science Quarterly, pp. 318-329.

Kenis, I., 1979, Effects of Budgetary Goal Characteristics on Managerial Attitudes and Performance , The Accounting Review, pp. 707-721.

Kerlinger, F. and E. Pedhazur, 1973, Multiple Regression in Behavioral Research, New York: Holt, Rinehart and Winston, Inc.

Kren, L., 1992a, Budgetary Participation and Managerial Performance: The Impact of Information and Environmental Volatility, The Accounting Review, pp. 511-526.

Kren, L., 1992b, The Moderating Effect of Locus of Control on Performance Incentives and Participation, Human Relations, pp. 991-1012.

Lal, M., A. Dunk, and G. Smith, 1996, The Propensity of Managers to Create Budgetary Slack: A Cross-National re-examinations Using Random Sampling, The International Journal of Accounting, pp. 483-496.

Land, K., 1969, Principles of path analysis, Sociological Methodology.

Lau, C., L., Low, and L., Eggleton, 1995, The Impact of Reliance on Accounting Performance Measures on Job-Related Tension and Managerial Performance: Additional Evidence, Accounting, Organizations and Society, pp. 359-381.

Lau, C., L. Low, and I. Eggleton, 1997, The Interactive Effect of Budget Emphasis, Participation and Task Difficulty on Managerial Performance: A Cross-Cultural Study, Accounting, Auditing, and Accountability, pp. 175-197.

Lau, C., and J. Tan, 1998, The Impact of Budget Emphasis, Participation and Task Difficulty on Managerial Performance: A Cross-Cultural Study of Financial Sector, Management Accounting, Research, pp. 163-183.

Lawler, E. and L. Suttle, 1973, Expectancy Theory and Job Behavior, Organizational Behavior and Human Performance, pp. 482-583.

Lefcourt, H., 1966, Internal Versus External Control of Reinforcement: A Review, Psychological Bulletin, pp. 206-220.

Lefcourt, H., 1991, Locus of Control, in: Robinson, J., P. Shaver, and L. Wrightsman, Measures of Personality and Social Psychological Attitudes, London: Academic Press.

Levenson, H., 1973, Multidimensional locus of control in psychiatric patients , Journal of consulting and clinical Psychology, pp. 397- 404.

Licata, M., Strawser, R., and R. Welker, 1986, A Note on Participation in Budgeting and Locus of Control , The Accounting Review, pp. 112- 117.

Locke, E., 1968, Toward A Theory of Task Motivation and Incentive, Organizational Behavior and Human Performance, pp. 157-189.

Locke, E., K. Shaw, L. Sarri, G. Latham, 1981, Goal Setting and Task Performance: 1969-1980, Psychological Bulletin, pp. 125-152.

Lyne, S., 1988, The Role of the Budget in Medium and Large UK Companies and the Relationship with Budget Pressure and Participation, Accounting and Business Research, pp. 195-212.

Lyne, S., 1995, Accounting Measures, Motivation and Performance Appraisal, in: Ashton, D., T. Hopper, and R. Scapens, Issues in Management Accounting, London: Prentice Hall.

Magee, R., 1980, Equilibria in budget participation, Journal of accounting research, pp. 551-573.

Mahoney, T., T., Jerdee, and S. Carroll, 1963, Development of Managerial Performance, A Research Approach, Cincinnati: South-western Publishing Co.

Mahoney, T., T., Jerdee, and S. Carroll, 1965, The job of management, Industrial relations, pp. 97-110 .

McGregor, D., 1960, The Human Side of Enterprise (New York: McGraw-Hill).

Mealiea, L., and D. Lee, 1979, An alternative to macro-micro contingency theories : An integrative model , Academy of Management Review, pp. 333-345.

Merchant, K., 1981, The Design of the Corporate Budgeting System: Influences on Managerial Behavior and Performance, The Accounting Review, pp. 813-829.

Merchant, K., 1984, Influences on Departmental Budgeting: An Empirical Examination of A Contingency Model, Accounting, Organization and Society, pp. 291-307.

Merchant, K., 1985, Budgeting and the Propensity to Create Budgetary Slack, Accounting , Organization and Society, pp. 201-210.

Mia, L., 1987, Participation in Budgetary Decision Making, Task Difficulty, Locus of Control, and Employee Behavior: An Empirical Study, Decision Science, pp. 547-561.

Mia, L., Managerial Attitude, 1988, Motivation and Effectiveness of Budget Participation, Accounting, Organization and Society, pp. 465-475.

Mia, L., 1989, The Impact of Participation in Budgeting and Job Difficulty on Managerial Performance and Work Motivation: A Research Note, Accounting, Organization and Society, pp. 347-357.

Milani, K., 1975, The Relationship of Participation in Budget-Setting to Industrial Supervisor Performance and Attitudes: A Field Study, The Accounting Review, pp. 274-284.

Mohr, L., 1971, Organizational Technology and Organizational Structure, Administrative Science Quarterly. Pp. 444-459.

Murray, D., 1990, The Performance Effects of Participative Budgeting: An Integration of Intervening and Moderating Variables , Behavioral Research in Accounting, pp. 104-123.

Nouri, H., 1994, Using Organizational Commitment and Involvement to Predict Budgetary Slack: A Research Note, Accounting, Organization and Society, pp. 289-295.

Nouri, H., G. Blau, and A. Shahid, 1995, The Effect of Socially Desirable Responding (SDR) on the Relationship Between Budgetary Participation and Self-Reported Job Performance, Advances in Management Accounting, pp. 163-177.

Nouri, H., and R. Parker, 1996, The Effect of Organizational Commitment on the Relationship Between Budgetary Participation and Budgetary Slack, Behavioral Research in Accounting, pp. 74-90.

Nur, I, 1993, The Effect of Participative Budgeting on Performance and Job Satisfaction With Locus-of-Control and Cultural Dimensions as Moderating. Unpublished Ph.D., University of Kentucky.

O'Connor, N., 1995, The Influence of Organizational Culture on the Usefulness of Budget Participation by Singaporean-Chinese Managers, Accounting, Organizations and Society, pp. 383-403.

Onsi, M., 1973, Factor Analysis of Behavioural Variables Affecting Budgetary Slack, The Accounting Review, pp. 535-548.

Orpen, C., 1992, Job Difficulty as Moderator of the Effect of Budgetary Participation on Employee Performance, The Journal of Social Psychology, pp. 695-696.

Otley, D., 1978, Budget Use and Managerial Performance, Journal of Accounting Research, pp. 122-149.

Otley, D., 1980, The Contingency Theory of Management Accounting: Achievement and Prognosis , Accounting Organization and Society, pp. 413-428.

Otley, D., 1987, Accounting Control and Organizational Behavior, London: Heineman.

Otley, D., L. Hannakis, and R. Lindsay, 1994, Influence in Budgeting, Locus of Control and Organizational Effectiveness: Cultural Differences, Accounting and Business Review, pp. 29-42.

Penno, M. 1984, Asymmetry of Pre-decision Information and Managerial Accounting , Journal of accounting research, pp. 177-191.

Perrow, C., 1967, A Framework for the Comparative Analysis of Organizations , American Sociological Review, pp. 194-208.

Price, J., & C. Mueller, 1986, Handbook of Organizational Measurement, USA: Pitman Publishing Inc.

Pugh, D., D. Hickson, C. Hinings, and C. Turner, 1969, The Context of Organization Structure, Administrative Science Quarterly, pp. 91-114.

Pugh, D., D. Hickson, C. Hinings, K. MacDonald, C. Tuner and T. Lupton, 1963, A Conceptual Scheme for Organizational Analysis, Administrative Science Quarterly, pp. 289-315.

Ronen, J., and J. Livingstone, 1975, An expectancy Theory Approach to the Motivational Impacts of Budgets, The Accounting Review, pp. 671-685.

Ross, A., 1995, Job Related Tension, Budget Emphasis and Uncertainty: A Research Note, Management Accounting Research, pp. 1-11.

Rotter, J., 1966, Generalized Expectancies for Internal Versus External Control of Reinforcement, Psychological Monographs: General and Applied, pp. 1-28.

Schiff, M., and A., Lewin, 1968, Where Traditional Budgeting Fails, Financial Executive, pp. 50-62.

Schiff, M., and A., Lewin, 1970, The Impact of People on Budget, The Accounting Review, pp. 259-268.

Schoonhoven, C., 1981, Problems with the Contingency Theory: Testing Assumptions Hidden Within the Language of the Contingency Theory, Administrative Science Quarterly, pp. 349-377.

Searfoss, D., and R. Monczka, 1973, Perceived Participation in the Budget Process and Motivation to Achieve the Budget, Academy of Management Journal, pp. 541-554.

Searfoss, D., Some Behavioral Aspects of Budgeting for Control: An Empirical Study, Accounting, Organization, and Society, pp. 375-385.

Shields, M. and S. Young, 1993, Antecedents and Consequences of Participative Budgeting: Evidence on the Effects of Asymmetrical Information, Journal of Management Accounting Research, pp. 265-280.

Stedry, A. and E. Kay, 1966, The Effects of Goal Difficulty on Performance: A Field Experiment , Behavioural Science, 459-470.

Steers, R., 1976, Factors affecting job attitudes in a goal-setting environment, Academy of management journal, pp. 6-16.

Stogdill, R., 1950, Leadership Membership and Organization, Psychological Bulletin, pp. 1-14.

Stogdill, R., 1963, Manual for the Leadership Behavior Description Questionnaire, (Bureau of Business Research, Ohio State University).

Subramaniam, N., and N., Ashkanasy, 1997, Organizational Culture Perceptions, Budgetary Participation and Managerial Job-Related Outcomes: An Empirical Investigation, Working paper, Fourth Annual Research Conference, Accounting, Behavior and Organizations Section, American Accounting Association.

Thompson, J., Organizations in action, New York: Mac-Grow-Hill, 1967.

Tymon, W., D. Stout, and K., Shaw, 1998, Critical Analysis and Recommendations Regarding the Role of Perceived Environmental Uncertainty in Behavioral Accounting Research, Behavioral Research in Accounting, pp. 23-46.

Ueno, S., and F. Wu, 1993, The Comparative Influence of Culture on Budget Control Practices in the United States and Japan, The international Journal of Accounting, pp. 17-39.

Van de Ven, A., and A.L. Delbecq, 1974, Task Contingent Model of Work Unit Structure, Administrative Science Quarterly, pp. 183-197.

Waller, W., 1988, Slack in Participative Budgeting: The Joint Effect of A Truth-Inducing Pay Scheme and Risk Preferences, Accounting, Organization and Society, pp. 87-98.

Weiss, D., R. Dawis, 1967, G. England, and L. Lofquist, Manual for the Minnesota Satisfaction Questionnaire (Minnesota Studies in Vocational Rehabilitation, vol. XXXII, Minneapolis, University of Minnesota Industrial Relations Centre).

Wright, S., 1934, The Method of Path Coefficients, Annals of Mathematical Statistics, pp. 161-215.

Wonnacott, T., and R., Wonnacott, 1981, Regression: A second Course in Statistics, New York: John Wiley & Sons.

Woodward, J., 1965, Industrial Organization: Theory and Practice, (Oxford: Oxford university press).

Young, S., 1985, Participative Budgeting: The Effects of Risk Aversion and Asymmetric Information on Budgetary Slack, Journal of Accounting Research, pp. 829-842.

Zerbe, W., and D., Paulhus, 1987, Socially Desirable Responding in Organizational Behavior,: A Reconception. Academy of Management Review, pp. 250-264.

Appendix A

Research Questionnaire

Dear department manager

I am a Ph.D. Student in accounting at the University of Bristol (England), doing research in the area of the budgetary control process. My field studies includes a wide-ranging sample of British and Saudi companies.

The enclosed questionnaire includes some questions asking for your opinions and how you feel about some points of your budget, performance, satisfaction, your superior and the environment that you are working in.

All your answers will be used for scientific purposes and will be kept strictly confidential. Both you and your company will not be mentioned in my study as I am dealing with a wide-ranging sample.

It is important that you answer the questions as accurately as you can, as the success of the study depends on the frankness and care with which you answer these questions.

Please do not leave any questions and items blank. and thank you in advance for participating in my study.

Sincerely yours
M. Mufti

Please answer the following demographic questions:

Your Age is:

Less than 25 ☐ 26 - 35 ☐ 36 - 45 ☐

46 - 55 ☐ More than 55 ☐

Your Nationality:

British ☐ Saudi ☐ From other Arabic country ☐

From far east countries ☐ Other (please specify) .....

Length of your work in the company ..... years and .....

Length of your work in the present job ..... years and .....

Educational level: I hold: High school graduation ☐
B.Sc. ☐
M.Sc. ☐
Ph.D. ☐

Other (please specify) .....

How many employees are under you: .....

Number of managerial level under you: .....

Your job title: General manager ☐ Assistant general manager ☐

Department supervisor ☐ Assistant department supervisor ☐

General foremen ☐

Area of major job content:

Production ☐

Sales, marketing, and advertising ☐

Finance and accounting ☐

Personnel and training ☐

Other, please specify .....

Question 1

The following items can be used to describe the role which **you** play in the development of the budget for your group. Please respond by ticking a number from 1 to 7 on the scale for each of the following items:

1 - How much are you involved when the budget is being set ?

Not Involved — Fully Involved

1	2	3	4	5	6	7

2 - How would you describe the explanation given by your superior when budget revisions are made.

Very Arbitrary/ or Illogical — Very Sound and/ or Logical

1	2	3	4	5	6	7

3 - How often do you state your requests, opinions and/or suggestions about the budget to your superiors **without** being asked.

Never — Very Frequently

1	2	3	4	5	6	7

4 - How much influence do you feel you have on the final budget ?

None — Very Important

1	2	3	4	5	6	7

5 - How do you view your contribution to the budget ? My contribution is:

Very Unimportant — Very Important

1	2	3	4	5	6	7

6 - How often does your superior seek your requests, opinions and/or suggestions when the budget is being set ?

Never — Very Frequently

1	2	3	4	5	6	7

Question 2

Now, are your subordinates **involved** in setting the budget?

Yes, they are involved ☐ No, they are not involved ☐

If your answer was yes, please describe the degree of participation which you give your subordinates when the budget is being set , please tick in the appropriate box

1 - My subordinates have a high degree of influence in the determination of their budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

2 - My subordinates are really have little voice in the formulation of the budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

3 - The setting of my budget is pretty much under their control

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

4 - I usually asks for my subordinates opinions and thoughts when determining the budget goals

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

5 - My budget is not finalized until my subordinates are satisfied with it.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

Question 3

Listed below twelve items which you can either do or receive in meeting the budget for your department, please indicate how desirable each item is by ticking the appropriate number

1 - Pay raise

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

2 - Respect from boss

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

3 - More compliments from boss and peers

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

4 - Promotion

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

5 - Special award

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

6 - Respect from peers

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

7 - Giving help to other

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

8 - Job security

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

9 - Setting higher standard for yourself

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

10 - Not feeling too tired at work

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

11 - Time at work passing fast

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

12 - Feeling of accomplishment

Extremely Desirable — Extremely Undesirable

1	2	3	4	5	6	7

Question 4

Indicate the frequency with which the following items apply in your job ?

1 - Certain about which method is best

Never	*occasionally*	*half the time*	*frequently*	*always*

2 - Have all necessary information

Never	*occasionally*	*half the time*	*frequently*	*always*

3 - Difficult to determine whether the right decision was taken

Never	*occasionally*	*half the time*	*frequently*	*always*

4 - Environmental changes frequently affect decision

Never	*occasionally*	*half the time*	*frequently*	*always*

5 - Uncertain about how to act

Never	*occasionally*	*half the time*	*frequently*	*always*

6 - Certain about job adjustments to deal with environmental change

Never	*occasionally*	*half the time*	*frequently*	*always*

7 - Frequently encounter new or unusual problems

Never	*occasionally*	*half the time*	*frequently*	*always*

8 - Can tell if actions were effective

Never	*occasionally*	*half the time*	*frequently*	*always*

9 - In doubt about how to obtain information

Never	*occasionally*	*half the time*	*frequently*	*always*

10 - Can tell if expectations of others were met

Never	*occasionally*	*half the time*	*frequently*	*always*

11 - Difficult to determine whether method used was effective

Never	*occasionally*	*half the time*	*frequently*	*always*

12 - Certain about how job is done

Never	*occasionally*	*half the time*	*frequently*	*always*

Question 5

The following items could be used to describe your supervisor, please tick the appropriate box for each item

1 - Lets group members know what is expected of them.

Always	Often	Occasionally	Seldom	Never act like that

2 - Is friendly and approachable.

Always	Often	Occasionally	Seldom	Never act like that

3 - Encourages the use of uniform procedures.

Always	Often	Occasionally	Seldom	Never act like that

4 - Does little things to make it pleasant to be a member of the group.

Always	Often	Occasionally	Seldom	Never act like that

5 - Tries out his ideas in the group.

Always	Often	Occasionally	Seldom	Never act like that

6 - Puts suggestions made by the group into operation.

Always	Often	Occasionally	Seldom	Never act like that

7 - Makes his attitudes clear to the group.

Always	Often	Occasionally	Seldom	Never act like that

8 - Keeps to himself / herself.

Always	Often	Occasionally	Seldom	Never act like that

9 - Makes sure that his/her part in the group is understood by the group members.

Always	Often	Occasionally	Seldom	Never act like that

10 - Looks out for the personal welfare of group members.

Always	Often	Occasionally	Seldom	Never act like that

11 - Schedules the work to be done.

Always	Often	Occasionally	Seldom	Never act like that

12 - Is willing to make changes.

Always	Often	Occasionally	Seldom	Never act like that

13 - Maintain definite standards of performance.

Always	Often	Occasionally	Seldom	Never act like that

14 - Refuses to explain his actions.

Always	Often	Occasionally	Seldom	Never act like that

15 - Asks that group members follow standard rules and regulations.

Always	Often	Occasionally	Seldom	Never act like that

16 - Acts without consulting the group.

Always	Often	Occasionally	Seldom	Never act like that

Question 6

Please respond to each of the following questions by ticking a number from 1 to 7.

1 - In comparison with your superior, who is in possession of better information regarding the activities undertaken in your area of responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

2 - In comparison with your superior, who is more familiar with the nature of the work in the area of your responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

3 - In comparison with your superior, who is more certain of the performance potential of your area of responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

4 - In comparison with your superior, who is more familiar technically with the work of your area of responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

5 - In comparison with your superior, who is better able to assess the potential impact on your activities of factors external to your area of responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

6 - In comparison with your superior, who has a better understanding of what can be achieved in your area of responsibility.

My superiorr has much better information — We have about the same quality of information — I have much better information

1 2 3 4 5 6 7

Question 7

When your superior is evaluating your performance how much importance do you think he attaches to the following item ?

1 - How well I cooperate with colleagues

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

2 - My concern with costs

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

3 - How well I get along with my boss

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

4 - How much effort I put into the job

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

5 - My concern with quality

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

6 - Meeting the budget

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

7 - My attitude toward my work and company

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

8 - My ability to handle my subordinate

Very Important	Quite Important	Somewhat Important	Little Important	No Important
1	2	3	4	5

Question 8

The following items describe how difficult and clear you feel about your budget, please tick a number from 1 to 7 which best describe how you feel

1 - I should not have too much difficulty in reaching my budget goals; they appear to be fairly easy.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

2 - My budget goals are quite difficult to attain.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

3 - My budget goals require a great deal of effort from me to achieve them.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

4 - It takes a high degree of skill and know-how on my part to attain fully my budget goals.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

5 - My budget goals are very clear and specific, I know exactly what my budget goals are.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

6 - I think my budget goals are ambiguous and unclear.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

7 - I understand fully which of my budget goals are more important than others. I have a clear sense of priorities on these goals.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

Question 9

Please tick the number which you feel most accurately describes your performance with respect to the following work dimensions in the area of responsibility under your control. use the following scale as a reference:

1 -Far below average performance
2 - Below average
3 -Little below average
4 - Average
5 - Little above the average
6 - Above the average
7 - Far above the average performance

1 - (Planning) Determining goals, policies, and courses of action [e.g.,work scheduling, budgeting performing]

1	2	3	4	5	6	7

2 - (Investigating) Collecting and preparing of information, usually in the form of records, reports, and accounts [e.g., measuring output, record keeping, job analysis]

3 - (Co-ordinating) Exchanging information with people in the organization other than your subordinates in order to relate and adjust programs [e.g., expediting. liaison with other managers, arranging meeting].

4 - (Evaluating) Assessment and appraisal of proposals or of reported or observed performance [e.g., employee appraisals, judging output records, product inspection].

5 - (Supervising) Directing, leading, and developing your subordinates.

6 - (Staffing) Maintaining the work force of your unit or of several units [e.g., selecting and promoting employees].

7 - (Negotiating) Purchasing, selling, or contracting of goods or services [e.g., tax negotiations, contracting suppliers, collective bargaining, advertising]

8 - (Representing) Advancing the general interests of my organization through speeches, consultation, contacts with individuals or groups outside the organization

9 - How do you evaluate your overall performance.

Question 10

The following items address your feelings about you job, your work environment, and your company. Please tick the relevant box to indicate how you feel about each item. Please be sure to tick just one box on each line.

VS Means I am very satisfied with this aspect of my job.

S Means I am satisfied with this aspect of my job.

N Means I can't decide whether I am satisfied or not with this aspect of my job.

DS Means I am dissatisfied with this aspect of my job.

VDS Means I am very dissatisfied with this aspect of my job.

On my present job, this is how I feel about :

	VS	S	N	DS	VDS
1 - Being busy all the time					
2 - The chance to work alone on the job					
3 - The chance to do different things from time to time					
4 - The way my superior handles subordinates					
5 - The competence of my supervisor in making decisions					
6 - Being able to do things that don't go against my conscience					
7 - The way my job provides for steady employment					
8 - The chance to do things for other people					
9- The chance to tell people what to do					

VS	S	N	DS	VDS

10 - The chance to do something that makes use of my ability

11 - The way company policies are put into practice

12 - My total compensation for the amount of work I do.

13 - The chance for advancement on this job.

14 - The freedom to use my own judgment.

15 - The chance to try my own methods of doing the job.

16 - The working conditions.

Question 11

Will you indicate to what extent you believe in the following items, please tick the scale from 1 to 7 for each item

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

1 - When I get what I want, it's usually because I'm lucky.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

2 - I have often found that what is going to happen will happen.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

3 - It's chiefly a matter of chance whether or not I have a few friends or many friends.

4 - It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

5 - Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

6 - Often there is no chance of protecting my personal interests from bad luck happenings.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

7 - It is impossible for anyone to say how long I will work in the company

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

8 - I am usually able to protect my personal interests.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

9 - When I make plans, I am almost certain to make them work.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

10 - I can pretty much determine what will happen in my life.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

11 - My behavior will determine whether I will continue in my work or not.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

12 - When I get what I want, it is usually because I worked hard for it.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

13 - How many friends I have depends on how nice a person I am.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

14 - Whether or not I get to be a leader depends mostly on my ability.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

Question 12

Now , will you please describe to what extent do you believe in the following items by ticking the appropriate box

1 - To protect himself, a manager submits a budget that can safely be attained.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

2 - The plant manager sets two levels of standards: one between himself and production (sales) manager, and another standard between himself and top management, to be safe.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

3 - In good business times, the plant manager accepts a reasonable level of slack in a departmental budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

4 - Slack in the budget is good to do things that cannot be officially approved.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

5 - With some skill, a manager can make his performance unit just as he wants.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

6 - The finance controller is "considerate" to the departmental manager who needs to attain the budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

7 - The plant manager has enough information to know if there is slack in a departmental budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

8 - Top management receives detailed information on the plant activities by department and product.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

9 - Top management has a way of knowing if there is slack in a departmental budget.

Strongly Agree	Quite Agree	Agree	Neither Agree nor Disagree	Disagree	Quite Disagree	Strongly Disagree

Question 13

The following questions describe the nature of your work, please tick a number from 1 to 7.

1 - To what extent is there a clearly defined body knowledge or subject matter which can guide you in doing your work?

No Extent — Great Extent

1	2	3	4	5	6	7

2- To what extent is there an understandable sequence of steps than can be followed in doing your work?

No Extent — Great Extent

1	2	3	4	5	6	7

3 - During the course of your work, how often do you come across specific difficult problems that you don't know how to solve it?

Never — All the time

1	2	3	4	5	6	7

4 - If there is something that you don't know how to handle in your work, to what extent can you go to some one else for an answer to the problem?

No Extent — Great Extent

1	2	3	4	5	6	7

Question 14

(To be answered by whether by production manager if there is one or finance manager)

This question aims to describe the technology used in your company on the basis of process automation and product standardisation:

First: Process Automation

1 - Which of the following categories best describes the **most automatic piece** of equipment used in your company ? please tick one of the following

- Hand tools and manual machines. ☐
- Powered machines and tools. ☐
- Single - Cycle automatics and self-feeding machines. ☐
- Automatics that repeat cycles. ☐
- Self - Measuring and adjusting by feedback. ☐
- Computer controlled. ☐
- None of the above ☐

2 - Which of the following categories best describes the **majority** of the production equipment used in your company ? please tick one of the following

- Hand tools and manual machines. ☐
- Powered machines and tools. ☐
- Single - Cycle automatics and self-feeding machines. ☐
- Automatics that repeat cycles. ☐
- Self - Measuring and adjusting by feedback. ☐
- Computer controlled. ☐
- None of the above ☐

3 - Which of the following best describes how finished products are evaluated ? please tick one of the following

- Personal evaluation only. No measuring instruments are used. ☐
- Partial measurement. Some aspects of output are measured. ☐
- Full measurement. Measurements are used over virtually the whole of output to compare against precise specification. ☐

Second : Product Standardization

How would you characterize the production of your company on the following standardization scale ? please tick one

- Each unit custom- made. ☐

- Products differ but have common components. ☐

- Products basically alike , with only minor differences; e.g. models, add-on features. ☐

- Products completely standardized. ☐

Number of employee in your company (in the site that you work in):

☐ 1- 101 - 150 ☐ 2- 151 - 200

☐ 3 - 201 - 250 ☐ 4- 251 - 300

☐ 5- 301 - 350 ☐ 6- 351 - 400

☐ 7- 401 - 450 ☐ 8- 451 - 500

Thank you for answering this questionnaire, the following is a general questions about the questionnaire itself, will you please spend another minutes to answer the following items :

1- The length of the questionnaire

Not too long — 1 | 2 | 3 | 4 | 5 | 6 | 7 — Too long

2- The time you spent in filling the questionnaire ..... Minutes

3- Which, if any, of the questions were difficult to understand, why ?

.....

.....

4- Which, if any, of the response (scale) sections were difficult to understand, why?

.....

.....

Any further suggestions

.....

.....

Appendix B

Glossary

- ◊ Attention to details organisational culture: Managers in high attention to details culture focus on accuracy and details. Managers are analytical, precise, and careful. On the other hand, managers in low attention to detail are likely to pay less attention to detail and precision.
- ◊ Budget constrained style or budget emphasis: is a style of evaluation, it means superiors major concern when evaluating his subordinate is on the basis of his ability to meet budget targets
- ◊ Budget goal clarity refers to the extent to which budget goals are clear to those who are responsible for implementing them; it ranges from very ambiguous to very clear
- ◊ Budgetary Participation: the extent to which managers are involved in setting their department budgets and they can express frankly and freely their opinions and influence the budget figures
- ◊ Budgetary slack: the amount by which managers intentionally build excess requirements for resources into the budgets, or knowingly understate productive capability.
- ◊ Closed system culture: the organisation and its member feel to be closed and secretive, even among insider; only very special people fit into the organisation. New members need more than a year to feel at home
- ◊ Collectivism: a cultural dimension which reflects the relationship among individuals in a society. The interest of people in these societies prevails interest of individual. Every one seek the interest of himself and people around him.
- ◊ Consideration leadership: Consideration refers to the extent the leader exercises friendly relationships with his subordinates, depending on trust and respect for their feelings
- ◊ Contingency theory (general): its concept means that their is no universal system applicable in all circumstances, the most appropriate system is one which takes into consideration situational variables
- ◊ Contingency theory in management accounting: it is based on the premise that their is no universally appropriate accounting system which applies equally to all

organisations in all circumstances, rather, it is suggested that particular feature of an appropriate accounting system will depend upon the specific circumstances in which organisation find itself

- ◊ Culture: collective programming of the mind which distinguishes the members of one human group from another
- ◊ Decentralisation: the extent to which decisions are taken by senior and middle management managers rather than top managers
- ◊ Differentiation: the difference in cognitive and emotional orientation among managers in different functional departments
- ◊ Dysfunctional behaviour: it is undertaken by subordinates to assist them in receiving favourable performance evaluation or to express their attention against top management (e.g., information distortion, resistance)
- ◊ Employee oriented culture: concern for people, people feel that their personal problems are taken into account, the organisation takes a responsibility for employees welfare. The important decisions tend to be made by groups and committees.
- ◊ Environment: environment is thought of as the totality of physical and social factors that are taken directly into consideration in the decision making behaviour of individuals in the organisation.
- ◊ Femininity: stands for a society in which social gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life
- ◊ Functional differentiation: the difference in cognitive and emotional orientation among managers in a different functional departments
- ◊ Heroes: Persons, alive or dead, real or imaginary, who process characteristics highly prised in the culture and serve as model for behaviour (e.g. people see same television shows and movies)
- ◊ Individualism: a cultural dimension which reflects the relationship among individuals in a society. The interest of individual in these societies prevails the interest people of. Every one seek the interest of himself and his immediate family.

◊ Initiation structure: initiation structure refers mean that the leader is like structure his and his subordinates roles toward organisation goals

◊ Innovation organisation culture: managers in high innovative OC are expected to seek new opportunities, task risks, experiment, and unconstrained by formal polices and practices. Managers in low innovative OC are expected to value conservatism, to be rules-oriented, and to be risk-averse.

◊ Intervening variable: it is a variable that intervene the relationship between two variables, it is mean the relationship between two variables exist through a third one. Its purpose to check how effect the direct effect between the two original variables has comparing with the indirect through the intervening one. It can be tested through some statistical technique such as path analysis

◊ Job oriented culture: concern for completing the job, people experience a strong pressure to complete the job, organisation does not take into account employees' personal problem. In such culture, important decisions tend to be made by individuals

◊ Leadership: Leadership may be considered as the process (act) of influencing the activities of an organised group in its efforts toward goal setting and goal achievement

◊ Locus of control: is a psychological and expectancy variable, its concern how people perceive events around them. In other word how people perceive the consequences of their action, is it due to fate (externals), luck or it is the results of their own action (internals)

◊ Loose control culture: People feel no one think of cost meeting times are only kept approximately, and jokes about the company and the job are frequent

◊ Masculinity: stands for a society in which social gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender and concerned with the quality of life

◊ Moderating variable: it is the variable which moderate the relationship between two variables. When the relationship between two variables is not constant in all

circumstances, that mean there is a third variable which moderate these two variable and affect the sign of correlation and the degree of its effect

◊ Motives: learned influences on human behaviour that lead us to pursue particular goals because they are socially valued.

◊ Non-Accounting evaluation style: accounting data does not play an important when a manager is being evaluated

◊ non-locals are people who live in a culture not of their own of origin for some time.

◊ Normative culture: major emphasis is on correctly following organisation procedures, which are more important than results; in matters of business ethics and honesty, the unit's standards are high

◊ Open systems culture: Members consider both the organisation and its people open to newcomers and outsider; almost anyone would fit into the organisation, and new employees need only a few days to feel at home

◊ Parochial culture: People feel that organisation's norm cover their behaviour at home as well as on the job. When the company hire employees, it takes into account their social and family background as much as their job competence

◊ Path analysis: it is just an application of regression and correlation. It is actually based on regression analysis, but it can provide a more useful graphic picture of relationships between several variables than is possible through other means

◊ Perceived environment uncertainty: the level to which managers perceive the environment in the area they work are vague and unclear. Any decisions they take they are not quite sure about its consequences. For example, it includes the nature of the industry itself whether it develop rapidly such as computers industry. It includes as well the political economical circumstances.

◊ Power Distance: the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally

◊ Pragmatic units: major emphasis on meeting customer's needs, results are more important than correct procedures

- ◊ Process automation: the level to which an object is being made by machine, it ranges from non-automation to fully automation. Automation means self-acting capability
- ◊ Process oriented culture: concern with mean, people perceive themselves as avoiding risks and making only a limited effort to their jobs, it is routine-based environment
- ◊ Professional culture: People consider their private lives their own business. When the company hire employees, it takes into account their job competence only
- ◊ Profit conscious evaluation style: the performance of a manager is evaluated on the basis of his ability to increase the general effectiveness of his department in the long run
- ◊ Results oriented culture: concern with goals, people perceive themselves as comfortable in unfamiliar situations
- ◊ Rituals: Collective activities that are technically superfluous but are socially essential within a culture, they are therefore carried out for their own sake (e.g. people perform the same sports and leisure activities)
- ◊ Routineness: it means how variety people perceive to their daily work, it ranges from they do same job every day to they have something different to do every day
- ◊ Social withdrawal: it is a type of dysfunctional behaviour and can be classified as a form of resistance. It can be vied as a number of indices which reflect the quality of relations between superiors and subordinates (e.g., subordinates' trust in, and respect for, superiors
- ◊ Symbols: Words, gestures, pictures, or objects that carry a particular meaning within a culture, (e.g. people dress the same, by same product and use the same fashionable words)
- ◊ Task environment: the set of stimuli to which an organisation is exposed and to which it attempts to respond. It also refers to the portion of the total environment that is relevant for organisational goal setting and goal attainment. It includes: customer, suppliers of material labour, competitors, and regularity group such as governmental agencies and unions.

- ◊ Tight control culture: People in such culture describe their work environment as cost-conscious, meeting times are kept punctually, jokes about company and jobs are rare
- ◊ Uncertainty avoidance: The extent to which the members of a culture feel threatened by uncertain or unknown situations
- ◊ Values: Non-specific feelings of good and evil, beautiful and ugly, normal and abnormal, rational and irrational - feelings that are often unconscious and rarely discussible, that cannot be observed as such but are manifested in alternatives of behaviour

Appendix C

Equations of Path Models and Tables of Results

Path Equations and Results

This appendix shows the equations which have been developed to test the four sub-models shown in chapter five. Based on the explanation of those four sub-models, sixteen equations were used (A-C-1 to A-C-16). It was mentioned in section 5-3-2 (p.5.10) that the effect of the contingency variables (size, environment uncertainty, technology) remain the same in all sub-models, therefore only one equation were used for this purpose which is A-C-16. From figure 5.7 (p.5.12) we find that budgetary participation affects the first group of intervening variables which consists of nine variables, therefore nine equations were used and they are A-C-7 to A-C-15. Then to test sub-model 1 which postulates that budgetary participation affects performance directly and indirectly through the first group of intervening variables and budget motivation, two equations were used and they are A-C-1 and A-C-5.

To test sub-model 2 which postulates that budgetary participation affects satisfaction through the first group of intervening variables and budget motivation, two equations were used and they are A-C-5 which was also used in sub-model 1, in addition to another equation which is A-C-2. To test sub-model 3 which postulates that budgetary participation affects performance through the first group of intervening variables and budgetary slack, two equations were used and they are A-C-3 and A-C-6. Finally, to test sub-model 4 which postulates that budgetary participation affects satisfaction through the first group of intervening variables and budgetary slack, two equations were used. The first was A-C-6 which was also used in sub-model 3, in addition to another equation which is A-C-4. The following part indicates these equations and their results.

$$X_{17} = P_{17.5} X_5 + P_{17.6} X_6 + P_{17.7} X_7 + P_{17.8} X_8 + P_{17.9} X_9 + P_{17.10} X_{10} + P_{17.11} X_{11} + P_{17.12} X_{12} + P_{17.13} X_{13} + P_{17.14} X_{14} + P_{17.15} X_{15} + P_{17.a} X_a \qquad \text{(A-C-1)}$$

$$X_{18} = P_{18.5} X_5 + P_{18.6} X_6 + P_{18.7} X_7 + P_{18.8} X_8 + P_{18.9} X_9 + P_{18.10} X_{10} + P_{18.11} X_{11} + P_{18.12} X_{12} + P_{18.13} X_{13} + P_{18.14} X_{14} + P_{18.15} X_{15} + P_{18.b} X_b \qquad \text{(A-C-2)}$$

$$X_{17} = P_{17.5} X_5 + P_{17.6} X_6 + P_{17.7} X_7 + P_{17.8} X_8 + P_{17.9} X_9 + P_{17.10} X_{10} + P_{17.11} X_{11} + P_{17.12} X_{12} + P_{17.13} X_{13} + P_{17.14} X_{14} + P_{17.16} X_{16} + P_{17c} X_c \quad \text{(A-C-3)}$$

$$X_{18} = P_{18.5} X_5 + P_{18.6} X_6 + P_{18.7} X_7 + P_{18.8} X_8 + P_{18.9} X_9 + P_{18.10} X_{10} + P_{18.11} X_{11} + P_{18.12} X_{12} + P_{18.13} X_{13} + P_{18.14} X_{14} + P_{18.16} X_{16} + P_{18.d} X_d \quad \text{(A-C-4)}$$

$$X_{15} = P_{15.5} X_5 + P_{15.6} X_6 + P_{15.7} X_7 + P_{15.8} X_8 + P_{15.9} X_9 + P_{15.10} X_{10} + P_{15.11} X_{11} + P_{15.12} X_{12} + P_{15.13} X_{13} + P_{15.14} X_{14} + P_{15.e} X_e \quad \text{(A-C-5)}$$

$$x_{16} = P_{16.5} X_5 + P_{16.6} X_6 + P_{16.7} X_7 + P_{16.8} X_8 + P_{16.9} X_9 + P_{16.10} X_{10} + P_{16.11} X_{11} + P_{16.12} X_{12} + P_{16.13} X_{13} + P_{16.14} X_{14} + P_{16.f} X_f \quad \text{(A-C-6)}$$

$$X_6 = P_{6.5} X_5 + P_{6.g} X_g \quad \text{(A-C-7)}$$

$$X_7 = P_{7.5} X_5 + P_{7.h} X_h \quad \text{(A-C-8)}$$

$$X_8 = P_{8.5} X_5 + P_{8.j} X_j \quad \text{(A-C-9)}$$

$$X_9 = P_{9.5} X_5 + P_{9.k} X_k \quad \text{(A-C-10)}$$

$$X_{10} = P_{10.5} X_5 + P_{10.i} X_i \quad \text{(A-C-11)}$$

$$X_{11} = P_{11.5} X_5 + P_{11.m} X_m \quad \text{(A-C-12)}$$

$$X_{12} = P_{12.5} X_5 + P_{12.n} X_n \quad \text{(A-C-13)}$$

$$X_{13} = P_{13.5} X_5 + P_{13.o} X_o \quad \text{(A-C-14)}$$

$$X_{14} = P_{14.5} X_5 + P_{14.r} X_r \quad \text{(A-C-15)}$$

$$X_5 = P_{5.1} X_1 + P_{5.2} X_2 + P_{5.3} X_3 + P_{5.4} X_4 + P_{5.s} X_s \quad \text{(A-C-16)}$$

Where:

X_1 = Organisation Size

X_2 = Environment Uncertainty

X_3 = Process Automation

X_4 = Product Standardisation

X_5 = Budgetary Participation

X_6 = Budget Emphasis

X_7 = Consideration

X_8 = Initiation Structure

X_9 = Information Asymmetry

X_{10} = Budget Difficulty

X_{11} = Budget Clarity

X_{12} = Locus of Control

X_{13} = Ability to Detect Slack

X_{14} = Job Difficulty

X_{15} = Budget Motivation

X_{16} = Budgetary Slack

X_{17} = Performance

X_{18} = Satisfaction

Table A-C-1

Results of Equation A-C-1

		Value			t statistics			Significance		
X17 = Performance	Path	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budget Motivation 15	P17.15	0.368	-0.150	0.111	2.460	-0.654	0.698	0.019	ns	ns
Budget Emphasis X 6	P17.6	-0.180	0.386	-0.447	-1.150	1.150	-1.230	ns	ns	ns
Consideration X 7	P17.7	-0.084	-0.194	0.116	-0.466	-0.689	0.453	ns	ns	ns
Initiation Structure X 8	P17.8	0.190	-0.107	0.088	0.936	-0.338	0.277	ns	ns	ns
Information Asymmetry X 9	P17.9	0.192	-0.018	0.112	1.300	-0.048	0.629	ns	ns	ns
Budget Difficulty X 10	P17.10	0.187	-0.310	0.475	1.110	-1.100	2.540	ns	ns	0.027
Budget Clarity X 11	P17.11	-0.119	0.223	0.296	-0.483	0.617	1.280	ns	ns	ns
Locus of Control X 12	P17.12	-0.176	-0.055	0.228	-1.230	-0.209	1.030	ns	ns	ns
Ability to Detect Slack X 13	P17.13	0.086	-0.327	-0.091	0.620	-1.320	-0.323	ns	ns	ns
Job Difficulty X 14	P17.14	-0.060	0.220	-0.105	-0.410	0.696	-0.353	ns	ns	ns
Budgetary Participation X 5	P17.5	0.544	-0.076	0.548	2.690	-0.283	1.960	0.011	ns	0.076
Constant					2.564	2.030	-0.272	0.013	0.055	0.791

Table A-C-2

Results of Equation A-C-2

		Value			t statistics			Significance		
X18 = Satisfaction	Path	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budget Motivation X 15	P18.15	0.056	-0.120	0.111	0.362	-0.888	0.895	ns	ns	ns
Budget Emphasis X 6	P18.6	-0.045	0.326	-0.132	-0.274	1.650	-0.466	ns	ns	ns
Consideration X 7	P18.7	0.276	0.153	0.524	1.460	0.922	2.630	ns	ns	0.020
Initiation Structure X 8	P18.8	0.252	-0.089	0.033	1.190	-0.474	0.135	ns	ns	ns
Information Asymmetry X 9	P18.9	0.130	0.304	-0.104	0.843	1.400	-0.755	ns	ns	ns
Budget Difficulty X 10	P18.10	0.162	0.268	-0.108	0.925	1.610	-0.744	ns	ns	ns
Budget Clarity X 11	P18.11	-0.376	-0.011	0.154	-1.450	-0.050	0.860	ns	ns	ns
Locus of Control X 12	P18.12	0.207	0.130	-0.177	1.380	0.834	-1.030	ns	ns	ns
Ability to Detect Slack X 13	P18.13	0.129	-0.003	0.259	0.897	-0.020	1.180	ns	ns	ns
Job Difficulty X 14	P18.14	-0.137	-0.405	-0.021	-0.893	-2.170	-0.091	ns	0.042	ns
Budgetary Participation X 5	P18.5	0.430	0.291	0.431	2.030	1.830	1.980	0.049	0.081	0.073
Constant					0.255	1.330	0.046	0.800	0.196	0.964

Table A-C-3

Results of Equation A-C-3

		Value			t statistics			Significance		
X17 = Performance	Path	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budgetary Slack X 16	P17.16	0.125	-0.339	0.151	0.752	-1.420	0.721	ns	ns	ns
Budget Emphasis X 6	P17.6	-0.091	0.371	-0.504	-0.562	1.150	-1.340	ns	ns	ns
Consideration X 7	P17.7	-0.036	-0.282	0.045	-0.189	-1.010	0.175	ns	ns	ns
Initiation Structure X 8	P17.8	0.120	-0.057	0.160	0.557	-0.184	0.514	ns	ns	ns
Information Asymmetry X 9	P17.9	0.112	-0.034	0.073	0.693	-0.096	0.395	ns	ns	ns
Budget Difficulty X 10	P17.10	0.229	-0.233	0.453	1.170	-0.845	2.430	ns	ns	0.033
Budget Clarity X 11	P17.11	0.074	0.390	0.209	0.297	1.050	0.848	ns	ns	ns
Locus of Control X 12	P17.12	-0.097	-0.136	0.356	-0.633	-0.524	1.330	ns	ns	ns
Ability to Detect Slack X 13	P17.13	0.119	-0.242	-0.126	0.812	-1.040	-0.438	ns	ns	ns
Job Difficulty X 14	P17.14	-0.002	0.327	-0.165	-0.012	1.040	-0.523	ns	ns	ns
Budgetary Participation X 5	P17.5	0.421	-0.091	0.580	2.000	-0.353	2.050	0.050	ns	0.065
Constant					1.674	1.990	-0.210	0.043	0.060	0.837

Table A-C-4

Results of Equation A-C-4

		Value			t statistics			Significance		
X18 = Satisfaction	Path	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budgetary Slack X 16	P18.16	0.253	-0.048	-0.089	1.610	-0.328	-0.534	ns	ns	ns
Budget Emphasis X 6	P18.6	-0.058	0.315	-0.071	-0.377	1.570	-0.239	ns	ns	ns
Consideration X 7	P18.7	0.267	0.170	0.515	1.470	0.980	2.510	ns	ns	0.029
Initiation Structure X 8	P18.8	0.280	-0.079	0.068	1.380	-0.413	0.275	ns	ns	ns
Information Asymmetry X 9	P18.9	0.061	0.292	-0.084	0.402	1.330	-0.575	ns	ns	ns
Budget Difficulty X 10	P18.10	0.272	0.273	-0.110	1.480	1.580	-0.744	ns	ns	0.023
Budget Clarity X 11	P18.11	-0.374	-0.002	0.174	-1.590	-0.007	0.883	ns	ns	ns
Locus of Control X 12	P18.12	0.251	0.111	-0.222	1.750	0.686	-1.050	0.088	ns	ns
Ability to Detect Slack X 13	P18.13	0.128	0.037	0.284	0.928	0.257	1.240	ns	ns	ns
Job Difficulty X 14	P18.14	-0.078	-0.396	0.053	-0.517	-2.010	0.211	ns	ns	ns
Budgetary Participation X 5	P18.5	0.456	0.273	0.407	2.310	1.710	1.800	0.027	0.050	0.090
Constant					-0.584	1.060	0.272	0.563	0.103	0.791

Table A-C-5

Results of Equation A-C-5

X15 = Budget Motivation	Path	Value			t statistics			Significance		
		British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budget Emphasis X 6	P15.6	0.281	0.090	0.152	1.690	0.284	0.232	0.090	ns	ns
Consideration X 7	P15.7	0.153	-0.301	-0.291	0.780	-1.150	-0.640	ns	ns	ns
Initiation Structure X 8	P15.8	-0.245	-0.024	0.439	-1.170	-0.080	0.782	ns	ns	ns
Information Asymmetry X 9	P15.9	-0.137	0.098	-0.018	-0.856	0.283	-0.055	ns	ns	ns
Budget Difficulty X 10	P15.10	-0.038	0.061	-0.087	-0.208	0.229	-0.257	ns	ns	ns
Budget Clarity X 11	P15.11	0.568	0.149	-0.181	2.220	0.436	-0.436	0.030	ns	ns
Locus of Control X 12	P15.12	0.168	0.084	0.169	1.080	0.332	0.426	ns	ns	ns
Ability to Detect Slack X 13	P15.13	0.101	-0.283	0.025	0.667	-1.240	0.049	ns	ns	ns
Job Difficulty X 14	P15.14	0.086	0.056	0.216	0.534	0.186	0.407	ns	ns	ns
Budgetary Participation X 5	P15.5	-0.401	0.156	-0.022	-1.880	0.615	-0.044	0.060	ns	ns
Constant					1.260	1.800	0.687	0.214	0.086	0.505

Table A-C-6

Results of Equation A-C-6

		Value			t statistics			Significance		
X16 = Budgetary Slack	Path	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23	British n= 48	Saudi n= 32	Arab n= 23
Budget Emphasis X 6	P16.6	0.114	-0.005	0.486	0.713	-0.016	0.976	ns	ns	ns
Consideration X 7	P16.7	0.069	-0.393	0.255	0.366	-1.620	0.739	ns	ns	ns
Initiation Structure X 8	P16.8	-0.163	0.139	-0.155	-0.772	0.493	-0.364	ns	ns	ns
Information Asymmetry X 9	P16.9	0.240	-0.004	0.244	1.550	-0.013	0.999	ns	ns	ns
Budget Difficulty X 10	P16.10	-0.444	0.253	0.079	-2.500	1.020	0.309	0.017	ns	ns
Budget Clarity X 11	P16.11	0.121	0.558	0.439	0.490	1.750	1.390	ns	0.095	ns
Locus of Control X 12	P16.12	-0.139	-0.200	-0.722	-0.932	-0.854	-2.390	ns	ns	0.034
Ability to Detect Slack X 13	P16.13	0.025	0.128	0.245	0.175	0.604	0.630	ns	ns	ns
Job Difficulty X 14	P16.14	-0.212	0.340	0.561	-1.360	1.210	1.380	ns	ns	ns
Budgetary Participation X 5	P16.5	-0.193	0.026	-0.234	-0.941	0.112	-0.609	ns	ns	ns
Constant					3.910	-0.041	0.349	0.000	0.968	0.733

Table A-C-7

Results of Equation A-C-7

X6 = Budget Emphasis	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P6.5	0.432	0.168	0.713	3.240	0.936	4.650	0.002	ns	0.000
Constant					5.890	0.936	-0.065	0.000	0.000	0.949

Table A-C-8

Results of Equation A-C-8

X7 = Consideration	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P7.5	0.222	0.010	0.465	1.540	0.057	2.405	ns	ns	0.025
Constant					8.710	6.180	1.670	0.000	0.000	0.110

Table A-C-9

Results of Equation A-C-9

X8 = Initiation Structure	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P8.5	0.320	0.045	0.447	2.290	0.244	2.290	0.026	ns	0.032
Constant					8.220	9.830	3.090	0.000	0.000	0.005

Table A-C-10

Results of Equation A-C-10

X9 = Information Asymmetry	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P9.5	0.122	-0.110	-0.150	0.834	-0.607	-0.697	ns	ns	ns
Constant					8.810	4.300	4.130	0.000	0.000	0.002

Table A-C-11

Results of Equation A-C-11

X10 = Budget Difficulty	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P10.5	0.287	-0.120	0.191	2.030	-0.664	0.890	0.048	ns	ns
Constant					7.330	6.820	2.020	0.000	0.000	0.056

Table A-C-12

Results of Equation A-C-12

X11 = Budget Clarity	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P11.5	0.709	0.394	0.388	6.820	2.350	1.930	0.000	0.026	0.067
Constant					4.830	4.520	4.510	0.000	0.000	0.000

Table A-C-13

Results of Equation A-C-13

X12 = Locus of Control	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P12.5	0.046	0.088	0.420	0.309	0.481	2.120	ns	ns	0.046
Constant					20.200	10.500	3.200	0.000	0.000	0.004

Table A-C-14

Results of Equation A-C-14

X13 = Ability to Detect Slack	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P13.5	0.078	0.079	0.341	0.530	0.436	1.660	ns	ns	ns
Constant					8.970	6.310	2.230	0.000	0.000	0.036

Table A-C-15

Results of Equation A-C-15

X14 = Job Difficulty	Path	Value			t statistics			Significance		
		British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23	British n= 48	Saudi n 32	Arab n= 23
Budgetary Participation X5	P14.5	0.110	-0.210	-0.613	0.748	-1.170	-3.550	ns	ns	0.002
Constant					6.500	6.030	6.090	0.000	0.000	0.000

Table A-C-16

Results of Equation A-C-16

		Value			t statistics			Significance		
X5 = Budgetary Participation	Path	British n= 46	Saudi n= 31	Arab n= 10	British n= 46	Saudi n= 31	Arab n= 10	British n= 46	Saudi n= 31	Arab n= 10
Organisation Size X 1	P5.1	0.205	0.161	-0.300	1.290	0.805	-0.242	ns	ns	ns
Environment Uncertainty X 2	P5.2	-0.220	-0.350	-0.614	-1.460	-1.750	-0.513	ns	0.091	ns
Process Automation X 3	P5.3	0.133	-0.074	0.003	0.871	-0.303	0.003	ns	ns	ns
Product Standardisation X 4	P5.4	0.016	0.053	0.466	0.105	0.211	0.651	ns	ns	ns
Constant					3.390	3.190	0.883	0.002	0.004	0.417

Appendix D

Results of the Equations of the Moderating Approach

Table No.	Description of Table	No. of hypotheses	Notes
A-D-1	Moderating Effect of Budget Motivation on Performance	H-II.7	
A-D-2	Moderating Effect of Budget Motivation on Satisfaction	H-II.8	
A-D-3	Moderating Effect of Budgetary Slack on Performance	H-II.11	
A-D-4	Moderating Effect of Budgetary Slack on Satisfaction	H-II.12	
A-D-5	Moderating Effect of Budget Emphasis on Performance	H-I.7a	
A-D-6	Moderating Effect of Budget Emphasis on Satisfaction	H-I.7b	
A-D-7	Moderating Effect of Budget Emphasis on Motivation	H-I.8	
A-D-8	Moderating Effect of Consideration on Motivation	H-I.5	
A-D-9	Moderating Effect of initiation Structure on Motivation	H-I.5	
A-D-10	Moderating Effect of Information Asymmetry on Motivation	H-I.9a	Whole Measure
A-D-11	Moderating Effect of Information Asymmetry on Slack	H-I.9b	Whole Measure
A-D-12	Moderating Effect of Information Asymmetry on Motivation	H-I.9a	Case One
A-D-13	Moderating Effect of Information Asymmetry on Motivation	H-I.9a	Case Two
A-D-14	Moderating Effect of Information Asymmetry on Slack	H-I.9b	Case One
A-D-15	Moderating Effect of Information Asymmetry on Slack	H-I.9b	Case Two
A-D-16	Moderating Effect of Budget Difficulty on Motivation	H-II.3a	
A-D-17	Moderating Effect of Budget Difficulty on Slack	H-II.3b	
A-D-18	Moderating Effect of Budget Clarity on Performance	H-II.4a	
A-D-19	Moderating Effect of Budget Clarity on Satisfaction	H-II.4b	
A-D-20	Moderating Effect of Locus of Control On Slack	H-II.5	Internal Scheme
A-D-21	Moderating Effect of Locus of Control On Slack	H-II.5	External Scheme
A-D-22	Moderating Effect of Locus of Control On Slack	H-II.5	Whole Measure
A-D-23	Moderating Effect of Superiors' Ability to Detect Slack on Slack	H-II.10	
A-D-24	Moderating Effect of Job Difficulty on Performance	H-I.11	
A-D-25	Moderating Effect of RAPM on Performance	H-I.7a	
A-D-26	Moderating Effect of RAPM on Satisfaction	H-I.7b	

Table A-D-1

Variables	B			t statistics			Significance		
Y= Performance	British n = 58	Saudi n = 41	Arab n = 30	British n = 58	Saudi n = 41	Arab n = 30	British n = 58	Saudi n = 41	Arab n = 30
X1 Budgetary Participation	-0.837	-0.624	2.127	-1.73	-0.652	2.27	0.089	ns	0.031
X2 Budget Motivation	-0.504	-0.29	0.792	-1.93	-0.721	1.64	0.058	ns	ns
X1 * X2	0.019	0.009	-0.022	2.45	0.718	-1.6	0.017	ns	ns
Constant	66.8	65.73	-21.4	4.21	2.35	-0.662	0	0.024	0.51

Table A-D-2

Variables	B			t statistics			Significance		
Y= Satisfaction	British n = 60	Saudi n = 40	Arab n = 30	British n = 60	Saudi n = 40	Arab n = 30	British n = 60	Saudi n = 40	Arab n = 30
X1 Budgetary Participation	0.835	1.38	0.539	0.993	1.58	0.384	ns	ns	ns
X2 Budget Motivation	0.27	0.416	-0.146	0.636	1.09	-0.202	ns	ns	ns
X1 * X2	0.009	-0.015	0.005	-0.664	-1.21	0.266	ns	ns	ns
Constant	35.06	19.84	40.82	1.32	0.746	0.827	0.19	0.46	0.41

Table A-D-3

Variables	B			t statistics			Significance		
Y= Performance	British n = 59	Saudi n = 45	Arab n = 32	British n = 59	Saudi n = 45	Arab n = 32	British n = 59	Saudi n = 45	Arab n = 32
X1 Budgetary Participation	-0.381	-0.261	0.427	-1.026	-0.53	0.386	ns	ns	ns
X2 Budgetary Slack	-1.007	-0.849	-0.179	-1.99	-1.15	-0.103	0.051	ns	ns
X1 * X2	0.031	0.02	0.004	2.06	0.885	0.083	0.043	ns	ns
Constant	60.28	60.58	40.9	4.77	3.9	1.01	0	0	0.32

Table A-D-4

Variables	B			t statistics			Significance		
Y= Satisfaction	British n = 60	Saudi n = 43	Arab n = 31	British n = 60	Saudi n = 43	Arab n = 31	British n = 60	Saudi n = 43	Arab n = 31
X1 Budgetary Participation	0.26	0.327	1.59	0.36	0.76	1.15	ns	ns	ns
X2 Budgetary Slack	-0.075	-0.438	1.38	-0.077	-0.675	0.632	ns	ns	ns
X1 * X2	-0.001	0.003	-0.036	-0.038	0.148	-0.601	ns	ns	ns
Constant	54.6	55.7	4.7	2.22	4.13	0.093	0.03	0	0.92

Table A-D-5

Variables	B			t statistics			Significance		
Y= Performance	British n = 59	Saudi n = 46	Arab n = 34	British n = 59	Saudi n = 46	Arab n = 34	British n = 59	Saudi n = 46	Arab n = 34
X1 Budgetary Participation	0.029	0.782	0.09	0.094	1.16	0.136	ns	ns	ns
X2 Budget Emphasis	-3.22	3.92	-0.71	-1.39	0.743	-0.149	ns	ns	ns
X1 * X2	0.095	-0.174	0.077	1.22	-1.04	0.483	ns	ns	ns
Constant	47.1	29.2	43.67	5.36	1.37	2.28	0	0.17	0.03

Table A-D-6

Variables	B			t statistics			Significance		
Y= Satisfaction	British n = 60	Saudi n = 45	Arab n = 32	British n = 60	Saudi n = 45	Arab n = 32	British n = 60	Saudi n = 45	Arab n = 32
X1 Budgetary Participation	0.179	0.71	0.01	0.415	1.31	0.01	ns	ns	ns
X2 Budget Emphasis	-2.36	8.3	1.26	-0.797	1.86	0.18	ns	0.069	ns
X1 * X2	0.046	-0.11	0.11	0.437	-0.855	0.492	ns	ns	ns
Constant	58.8	17.24	40.7	5.26	0.948	1.41	0	0.34	0.168

Table A-D-7

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 62	Saudi n = 45	Arab n = 32	British n = 62	Saudi n = 45	Arab n = 32	British n = 62	Saudi n = 45	Arab n = 32
X1 Budgetary Participation	-1.08	2.07	-0.85	-1.89	1.66	-0.732	0.063	ns	ns
X2 Budget Emphasis	-6.65	17.18	-5.6	-1.64	1.95	-0.578	ns	0.057	ns
X1 * X2	0.269	-0.47	0.25	1.88	-1.57	0.841	0.064	ns	ns
Constant	86.5	-6.4	84.1	5.78	-0.176	2.42	0	0.86	0.022

Table A-D-8

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 62	Saudi n = 44	Arab n = 32	British n = 62	Saudi n = 44	Arab n = 32	British n = 62	Saudi n = 44	Arab n = 32
X1 Budgetary Participation	1.04	-1.31	0.628	1.52	-0.82	0.368	ns	ns	ns
X2 Consideration	1.07	-2.18	0.408	1.37	-1.21	0.198	ns	ns	ns
X1 * X2	-0.039	0.055	-0.012	-1.6	0.99	-0.202	ns	ns	ns
Constant	32.23	0.012	0.465	1.49	2.38	0.788	0.139	0.022	0.437

Table A-D-9

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 62	Saudi n = 44	Arab n = 32	British n = 62	Saudi n = 44	Arab n = 32	British n = 62	Saudi n = 44	Arab n = 32
X1 Budgetary Participation	0.859	-2.04	-0.677	1.21	-0.86	-0.383	ns	ns	ns
X2 Initiation Structure	0.834	-2.96	-0.487	0.99	-1.26	-0.248	ns	ns	ns
X1 * X2	-0.032	0.074	0.028	-1.25	0.97	0.485	ns	ns	ns
Constant	38.31	152.5	76.7	1.65	2.09	1.29	0.103	0.042	0.207

Table A-D-10

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 62	Saudi n = 45	Arab n = 32	British n = 62	Saudi n = 45	Arab n = 32	British n = 62	Saudi n = 45	Arab n = 32
X1 Budgetary Participation	-0.255	-0.769	1.96	-0.305	-0.613	2.101	ns	ns	0.045
X2 Information Asymm.	-0.164	-1.29	2.18	-0.208	-0.785	1.94	ns	ns	0.062
X1 * X2	0.008	0.039	-0.06	0.32	0.81	-1.91	ns	ns	0.065
Constant	66.43	94.4	-1.42	2.5	2.18	-0.044	0.015	0.035	0.966

Table A-D-11

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 62	Saudi n = 47	Arab n = 35	British n = 62	Saudi n = 47	Arab n = 35	British n = 62	Saudi n = 47	Arab n = 35
X1 Budgetary Participation	-1.005	-0.891	-0.226	-2.27	-1.37	-0.618	0.027	ns	ns
X2 Information Asymm.	-0.668	-1.31	0.024	-1.68	-1.56	0.061	0.097	ns	ns
X1 * X2	0.029	0.04	0.002	2.21	1.67	0.171	0.031	ns	ns
Constant	47.32	52.05	27.37	3.56	2.28	2.16	0.001	0.027	0.038

Table A-D-12

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 6	Saudi n = 20	Arab n = 9	British n = 6	Saudi n = 20	Arab n = 9	British n = 6	Saudi n = 20	Arab n = 9
X1 Budgetary Participation	0.408	-1.18	-0.012	0.664	-0.601	-0.011	ns	ns	ns
X2 Information Asymm.	0.791	-2.21	-1.98	0.718	-0.628	-0.986	ns	ns	ns
X1 * X2	-0.025	0.052	0.053	-0.705	0.5	0.91	ns	ns	ns
Constant	49.49	118.06	72.02	2.51	1.74	1.98	0.128	0.1	0.105

Table A-D-13

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 54	Saudi n = 23	Arab n = 21	British n = 54	Saudi n = 23	Arab n = 21	British n = 54	Saudi n = 23	Arab n = 21
X1 Budgetary Participation	-0.527	-2.54	3.9	-0.402	-0.754	1.59	ns	ns	ns
X2 Information Asymm.	0.041	-1.35	4.36	0.035	-0.353	1.67	ns	ns	ns
X1 * X2	0.016	0.08	-0.12	0.417	0.713	-1.62	ns	ns	ns
Constant	58.89	108.65	-74.4	1.44	0.975	-0.843	0.155	0.342	0.411

Table A-D-14

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 5	Saudi n = 20	Arab n = 9	British n = 5	Saudi n = 20	Arab n = 9	British n = 5	Saudi n = 20	Arab n = 9
X1 Budgetary Participation	5.9	1.23	-0.36	0.73	0.93	-0.92	ns	ns	ns
X2 Information Asymm.	8.01	3	-0.01	0.947	1.33	-0.013	ns	ns	ns
X1 * X2	-0.31	-0.09	0.013	-0.821	-1.44	0.562	ns	ns	ns
Constant	-124.9	-16.78	28.03	-0.722	-0.363	1.99	0.602	0.722	0.102

Table A-D-15

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 55	Saudi n = 24	Arab n = 24	British n = 55	Saudi n = 24	Arab n = 24	British n = 55	Saudi n = 24	Arab n = 24
X1 Budgetary Participation	-1.3	0.676	0.257	-2.23	0.627	0.305	0.03	ns	ns
X2 Information Asymm.	-0.839	0.683	0.494	-1.56	0.557	0.559	ns	ns	ns
X1 * X2	0.038	-0.012	-0.012	2.21	-0.337	-0.465	0.031	ns	ns
Constant	53.22	-8.18	10.26	2.88	-0.229	0.359	0.006	0.821	0.724

Table A-D-16

Variables	B			t statistics			Significance		
Y= Budget Motivation	British n = 63	Saudi n = 43	Arab n = 31	British n = 63	Saudi n = 43	Arab n = 31	British n = 63	Saudi n = 43	Arab n = 31
X1 Budgetary Participation	-0.499	2.74	0.875	-0.492	1.59	0.754	ns	ns	ns
X2 Budget Difficulty	0.012	4.56	1.48	-0.007	1.59	0.539	ns	ns	ns
X1 * X2	0.023	-0.142	-0.04	0.396	-1.46	-0.552	ns	ns	ns
Constant	63.26	-19.91	37.89	1.98	-0.39	0.94	0.052	0.699	0.355

Table A-D-17

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 63	Saudi n = 46	Arab n = 34	British n = 63	Saudi n = 46	Arab n = 34	British n = 63	Saudi n = 46	Arab n = 34
X1 Budgetary Participation	0.135	-0.238	-0.435	0.302	-0.297	-1.03	ns	ns	ns
X2 Budget Difficulty	-0.412	-0.447	-0.604	-0.503	-0.328	-0.591	ns	ns	ns
X1 * X2	-0.006	0.023	0.019	-0.26	0.523	0.633	ns	ns	ns
Constant	31.12	25.38	36.76	2.205	1.009	2.57	0.031	0.319	0.015

Table A-D-18

Variables	B			t statistics			Significance		
Y= Performance	British n = 59	Saudi n = 45	Arab n = 33	British n = 59	Saudi n = 45	Arab n = 33	British n = 59	Saudi n = 45	Arab n = 33
X1 Budgetary Participation	0.452	-0.259	0.864	1.68	-0.288	0.767	ns	ns	ns
X2 Budget Clarity	0.534	-0.533	1.71	0.788	-0.315	0.772	ns	ns	ns
X1 * X2	-0.011	0.023	-0.028	-0.524	0.41	-0.435	ns	ns	ns
Constant	30.3	52.47	11.8	3.72	1.96	0.318	0	0.056	0.753

Table A-D-19

Variables	B			t statistics			Significance		
Y= Satisfaction	British n = 61	Saudi n = 43	Arab n = 31	British n = 61	Saudi n = 43	Arab n = 31	British n = 61	Saudi n = 43	Arab n = 31
X1 Budgetary Participation	0.194	-0.648	-0.77	0.419	-0.852	-0.489	ns	ns	ns
X2 Budget Clarity	0.438	-0.58	-1.38	0.378	-0.406	-0.438	ns	ns	ns
X1 * X2	-0.001	0.048	0.078	-0.036	1.03	0.872	ns	ns	ns
Constant	48.58	62.8	65.3	3.47	2.76	1.23	0.001	0.009	0.229

Table A-D-20

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 62	Saudi n = 48	Arab n = 35	British n = 62	Saudi n = 48	Arab n = 35	British n = 62	Saudi n = 48	Arab n = 35
X1 Budgetary Participation	1.6	1.62	-0.346	2.6	1.69	-0.454	0.011	0.096	ns
X2 Internal Control	1.27	1.37	-0.108	2.14	1.71	-0.177	0.037	0.092	ns
X1 * X2	-0.049	-0.038	0.003	-2.7	-1.55	0.213	0.009	ns	ns
Constant	-17.88	-34.34	32.95	-0.88	-1.12	1.34	0.38	0.74	0.011

Table A-D-21

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 62	Saudi n = 46	Arab n = 34	British n = 62	Saudi n = 46	Arab n = 34	British n = 62	Saudi n = 46	Arab n = 34
X1 Budgetary Participation	-1.26	0.331	-0.641	-2.75	1.01	-1.55	0.008	ns	ns
X2 External Control	-1.34	0.637	-0.624	-2.08	1.35	-1.01	0.042	ns	ns
X1 * X2	0.05	-0.008	0.022	2.71	-0.588	1.33	0.009	ns	ns
Constant	57.6	3.5	41.41	3.63	0.327	2.7	0.001	0.26	0.188

Table A-D-22

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 61	Saudi n = 47	Arab n = 34	British n = 61	Saudi n = 47	Arab n = 34	British n = 61	Saudi n = 47	Arab n = 34
X1 Budgetary Participation	1.88	0.482	0.65	2.88	0.516	0.908	0.005	ns	ns
X2 Locus of Control	0.765	-0.012	0.262	2.23	-0.03	0.81	0.029	ns	ns
X1 * X2	-0.029	-0.004	-0.01	-2.95	-0.343	-1.09	0.005	ns	ns
Constant	-25.14	17.7	7.6	-1.11	0.582	0.321	0.269	0.564	0.75

Table A-D-23

Variables	B			t statistics			Significance		
Y= Budgetary Slack	British n = 59	Saudi n = 48	Arab n = 34	British n = 59	Saudi n = 48	Arab n = 34	British n = 59	Saudi n = 48	Arab n = 34
X1 Budgetary Participation	0.339	-0.411	0.38	0.792	-0.606	0.73	ns	ns	ns
X2 Ability to Dtect Slc.	0.738	-1.001	1.12	0.866	-0.729	1.01	ns	ns	ns
X1 * X2	-0.029	0.035	-0.037	-1.01	0.844	-1.12	ns	ns	ns
Constant	15.47	33.7	12.01	1.21	1.5	0.712	0.229	0.138	0.482

Table A-D-24

Variables	B			t statistics			Significance		
Y= Performance	British n = 58	Saudi n = 46	Arab n = 32	British n = 58	Saudi n = 46	Arab n = 32	British n = 58	Saudi n = 46	Arab n = 32
X1 Budgetary Participation	0.544	-0.251	0.422	1.54	-0.325	0.738	ns	ns	ns
X2 Job Difficulty	0.467	-0.613	-0.265	0.522	-0.324	-0.175	ns	ns	ns
X1 * X2	-0.015	0.03	-0.012	-0.532	0.521	-0.266	ns	ns	ns
Constant	29.92	51.53	47.03	2.62	2.02	2.29	0.011	0.05	0.029

Table A-D-25

Variables	B			t statistics			Significance		
Y= Global Performance	British n = 55	Saudi n = 44	Arab n = 33	British n = 55	Saudi n = 44	Arab n = 33	British n = 55	Saudi n = 44	Arab n = 33
X1 Budgetary Participation	-0.056	0.023	-0.04	-0.98	0.254	-0.63	ns	ns	ns
X2 Budget Emphasis (RAPM)	-0.353	-0.003	-0.251	-1.6	-0.024	-0.85	ns	ns	ns
X1 * X2	0.012	-0.0014	0.009	1.7	-0.121	1.08	0.088	ns	ns
Constant	6.88	5.55	7.17	4.11	1.88	3.04	0	0.067	0.005

Table A-D-26

Variables	B			t statistics			Significance		
Y= Satisfaction	British n = 56	Saudi n = 43	Arab n = 32	British n = 56	Saudi n = 43	Arab n = 32	British n = 56	Saudi n = 43	Arab n = 32
X1 Budgetary Participation	-0.167	0.062	-0.136	-0.295	0.092	-0.133	ns	ns	ns
X2 Budget Emphasis (RAPM)	-2.18	1.43	-0.558	-1.03	0.513	-0.155	ns	ns	ns
X1 * X2	0.067	0.016	0.089	0.958	0.186	0.742	ns	ns	ns
Constant	66.84	41.01	46.5	4.13	1.84	1.57	0	0.072	0.127

Appendix E

Results of the Individual Test of the Intervening Approach

Table Number	Hypothesis Number	Explanation
A-E-1	H-I.5	The intervening role of initiation structure between BP and motivation
A-E-2	H-I.5	The intervening role of consideration between BP and motivation
A-E-3	H-I.7a	The intervening role of budget emphasis between BP and performance
A-E-4	H-I.7b	The intervening role of budget emphasis between BP and satisfaction
A-E-5	H-I.8	The intervening role of budget emphasis between BP and motivation
A-E-6	H-I.9a	The intervening role of information asymmetry between BP and motivation
A-E-7	H-I.9b	The intervening role of information asymmetry between BP and slack
A-E-8	H-I.11	The intervening role of job difficulty between BP and performance
A-E-9	H-II.3a	The intervening role of budget difficulty between BP and motivation
A-E-10	H-II.3b	The intervening role of budget difficulty between BP and slack
A-E-11	H-II.4a	The intervening role of budget clarity between BP and performance
A-E-12	H-II.4b	The intervening role of budget clarity between BP and satisfaction
A-E-13	H-II.5	The intervening role of locus of control between BP and slack
A-E-14	H-II.7	The intervening role of motivation between BP and performance
A-E-15	H-II.8	The intervening role of motivation between BP and satisfaction
A-E-16	H-II.10	The intervening role of ability to detect slack between BP and slack
A-E-17	H-II.11	The intervening role of slack between BP and performance
A-E-18	H-II.12	The intervening role of slack between BP and satisfaction

A-E-1	Hypothesis H-I.5									
		Value			t statistics			Significance		
X2 = Initiation Structure	Path	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32
Budgetary Participation X1	P2.1	0.151	0.059	0.378	1.18	0.381	2.23	ns	ns	0.033
Constant					9	11.14	4.76	0	0	0
		Value			t statistics			Significance		
X3 = Motivation	Path	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32
Budgetary Participation X1	P3.1	-0.003	0.148	0.098	-0.021	0.984	0.506	ns	ns	ns
Initiation Structure X2	P3.2	-0.095	-0.234	0.195	-0.722	-1.55	1	ns	ns	ns
Constant					8.37	5.4	3.45	0	0	0.002

A-E-2	Hypothesis H-I.5									
		Value			t statistics			Significance		
X2 = Consideration	Path	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32
Budgetary Participation X1	P2.1	0.084	-0.007	0.36	0.654	-0.047	2.11	ns	ns	0.043
Constant					9.96	7.03	3.39	0	0	0.002
		Value			t statistics			Significance		
X3 = Motivation	Path	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32	British n= 62	Saudi n= 44	Arab n= 32
Budgetary Participation X1	P3.1	-0.013	0.135	0.172	-0.098	0.893	0.878	ns	ns	ns
Consideration X2	P3.2	-0.051	-0.196	0	-0.389	-1.29	-0.002	ns	ns	ns
Constant					7.65	5.74	4.55	0	0	0

A-E-3	Hypothesis H-I.7a									
		Value			t statistics			Significance		
X2 = Budget Emphasis	Path	British n= 59	Saudi n= 46	Arab n= 34	British n= 59	Saudi n= 46	Arab n= 34	British n= 59	Saudi n= 46	Arab n= 34
Budgetary Participation X1	P2.1	0.414	0.011	0.386	3.43	0.073	2.36	0.001	ns	0.024
Constant					6.2	5.29	2.24	0	0	0.032
		Value			t statistics			Significance		
X3 = Performance	Path	British n= 59	Saudi n= 46	Arab n= 34	British n= 59	Saudi n= 46	Arab n= 34	British n= 59	Saudi n= 46	Arab n= 34
Budgetary Participation X1	P3.1	0.602	0.087	0.384	4.99	0.579	2.3	0	ns	0.028
Budget Emphasis X2	P3.2	-0.09	-0.17	0.231	-0.743	-1.138	1.39	ns	ns	ns
Constant					12.59	6.24	6.019	0	0	0

A-E-4	Hypothesis H-I.7b									
		Value			t statistics			Significance		
X2 = Budget Emphasis	Path	British n= 60	Saudi n= 45	Arab n= 32	British n= 60	Saudi n= 45	Arab n= 32	British n= 60	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P2.1	0.48	-0.034	0.399	4.17	-0.22	2.38	0	ns	0.024
Constant					5.63	5.86	3.12	0	0	0.004
		Value			t statistics			Significance		
X3 = Satisfaction	Path	British n= 60	Saudi n= 45	Arab n= 32	British n= 60	Saudi n= 45	Arab n= 32	British n= 60	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P3.1	0.384	0.225	0.366	2.7	1.81	2.43	0.009	0.076	0.021
Budget Emphasis X2	P3.2	-0.148	0.563	0.435	-1.043	4.55	2.89	ns	0	0.007
Constant					12	4.99	3.64	0	0	0.001

A-E-5	Hypothesis H-I.8									
		Value			t statistics			Significance		
X2 = Budget Emphasis	Path	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P2.1	0.465	0.102	0.556	4.07	0.675	3.66	0	ns	0.001
Constant					5.78	5.1	0.807	0	0	0.426
		Value			t statistics			Significance		
X3 = Motivation	Path	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P3.1	-0.049	0.084	0.047	-0.336	0.57	0.216	ns	ns	ns
Budget Emphasis X2	P3.2	0.044	0.284	0.225	0.298	1.92	1.044	ns	0.061	ns
Constant					9.79	4.24	5.24	0	0	0

A-E-6	Hypothesis H-I.9a									
		Value			t statistics			Significance		
X2 = Information Asymmetry	Path	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P2.1	-0.065	-0.073	-0.017	-0.504	-0.481	-0.092	ns	ns	ns
Constant					11.89	4.85	2.97	0	0	0.006
		Value			t statistics			Significance		
X3 = Motivation	Path	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32	British n= 62	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P3.1	0.007	0.115	0.156	0.054	0.745	0.849	ns	ns	ns
Information Asymmetry X2	P3.2	0.048	0.016	0.057	0.368	0.107	0.312	ns	ns	ns
Constant						5.23	4.59	0	0	0

A-E-7	Hypothesis H-I.9b									
		Value			t statistics			Significance		
X2 = Information Asymmetry	Path	British n= 62	Saudi n= 47	Arab n= 35	British n= 62	Saudi n= 47	Arab n= 35	British n= 62	Saudi n= 47	Arab n= 35
Budgetary Participation X1	P2.1	-0.024	-0.133	-0.117	-0.183	-0.902	-0.677	ns	ns	ns
Constant					12.39	5.32	4.08	0	0	0
		Value			t statistics			Significance		
X3 = Slack	Path	British n= 62	Saudi n= 47	Arab n= 35	British n= 62	Saudi n= 47	Arab n= 35	British n= 62	Saudi n= 47	Arab n= 35
Budgetary Participation X1	P3.1	-0.072	0.199	-0.25	-0.563	1.34	-0.149	ns	ns	ns
Information Asymmetry X2	P3.2	0.199	0.112	0.193	1.56	0.756	1.15	ns	ns	ns
Constant					4.48	2.8	5.43	0	0.008	0

A-E-8	Hypothesis H-I.11									
		Value			t statistics			Significance		
X2 = Job Difficulty	Path	British n= 58	Saudi n= 46	Arab n= 32	British n= 58	Saudi n= 46	Arab n= 32	British n= 58	Saudi n= 46	Arab n= 32
Budgetary Participation X1	P2.1	0.036	-0.188	-0.544	0.267	-1.27	-3.55	ns	ns	0.001
Constant					7.33	7.19	7.12	0	0	0
		Value			t statistics			Significance		
X3 = Performance	Path	British n= 58	Saudi n= 46	Arab n= 32	British n= 58	Saudi n= 46	Arab n= 32	British n= 58	Saudi n= 46	Arab n= 32
Budgetary Participation X1	P3.1	0.568	0.106	0.274	5.109	0.69	1.5	0	ns	ns
Job Difficulty X2	P3.2	0	0.113	-0.375	-0.002	0.735	-2.06	ns	ns	0.048
Constant					11.57	4.22		0	0	0

A-E-9	Hypothesis H-II.3a									
		Value			t statistics			Significance		
X2 = Budget Difficulty	Path	British n= 63	Saudi n= 43	Arab n= 31	British n= 63	Saudi n= 43	Arab n= 31	British n= 63	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P2.1	0.25	-0.084	0.107	2.01	-0.543	0.579	0.048	ns	ns
Constant					9.93	7.63	3.38	0	0	0.002
		Value			t statistics			Significance		
X3 = Motivation	Path	British n= 63	Saudi n= 43	Arab n= 31	British n= 63	Saudi n= 43	Arab n= 31	British n= 63	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P3.1	-0.083	0.133	0.155	-0.636	0.849	0.824	ns	ns	ns
Budget Difficulty X2	P3.2	0.229	0.118	0	1.76	0.757	-0.001	0.083	ns	ns
Constant					6.55	3.44	4.52	0	0.001	0

A-E-10	Hypothesis H-II.3b									
		Value			t statistics			Significance		
X2 = Budget Difficulty	Path	British n= 63	Saudi n= 46	Arab n= 34	British n= 63	Saudi n= 46	Arab n= 34	British n= 63	Saudi n= 46	Arab n= 34
Budgetary Participation X1	P2.1	0.242	-0.113	0.183	1.94	-0.754	1.05	0.056	ns	ns
Constant					9.97	7	3.43	0	0	0.002
		Value			t statistics			Significance		
X3 = Slack	Path	British n= 63	Saudi n= 46	Arab n= 34	British n= 63	Saudi n= 46	Arab n= 34	British n= 63	Saudi n= 46	Arab n= 34
Budgetary Participation X1	P3.1	0.034	0.196	-0.278	0.285	1.31	-1.58	ns	ns	ns
Budget Difficulty X2	P3.2	-0.425	0.156	0.023	-3.51	1.04	0.132	0.001	ns	ns
Constant					10.06	2	6.33	0	0.052	0

A-E-11	Hypothesis H-II.4a									
		Value			t statistics			Significance		
X2 = Budget Clarity	Path	British n= 59	Saudi n= 45	Arab n= 33	British n= 59	Saudi n= 45	Arab n= 33	British n= 59	Saudi n= 45	Arab n= 33
Budgetary Participation X1	P2.1	0.617	0.339	0.453	5.91	2.36	2.83	0	0.023	0.008
Constant					4.41	5.3	5.39	0	0	0
		Value			t statistics			Significance		
X3 = Performance	Path	British n= 59	Saudi n= 45	Arab n= 33	British n= 59	Saudi n= 45	Arab n= 33	British n= 59	Saudi n= 45	Arab n= 33
Budgetary Participation X1	P3.1	0.485	0.076	0.359	3.49	0.468	2.103	0.001	ns	0.044
Budget Clarity X2	P3.2	0.129	0.05	0.29	0.929	0.309	1.699	ns	ns	0.1
Constant					13.11	5.08	3.6	0	0	0.001

A-E-12	Hypothesis H-II.4b									
		Value			t statistics			Significance		
X2 = Budget Clarity	Path	British n= 61	Saudi n= 43	Arab n= 31	British n= 61	Saudi n= 43	Arab n= 31	British n= 61	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P2.1	0.656	0.269	0.386	6.68	1.78	2.25	0	0.081	0.032
Constant					5.38	6.05	6	0	0	0
		Value			t statistics			Significance		
X3 = Satisfaction	Path	British n= 61	Saudi n= 43	Arab n= 31	British n= 61	Saudi n= 43	Arab n= 31	British n= 61	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P3.1	0.189	0.103	0.405	1.14	0.674	2.53	ns	ns	0.017
Budget Clarity X2	P3.2	0.169	0.327	0.343	1.02	2.14	2.14	ns	0.039	0.041
Constant					10.9	5.29	1.86	0	0	0.072

A-E-13	Hypothesis H-II.5									
		Value			t statistics			Significance		
X2 = Locus of Control	Path	British n= 61	Saudi n= 47	Arab n= 34	British n= 61	Saudi n= 47	Arab n= 34	British n= 61	Saudi n= 47	Arab n= 34
Budgetary Participation X1	P2.1	-0.014	0.052	0.339	-0.104	0.348	2.04	ns	ns	0.05
Constant					21.43	10.23	5.96	0	0	0
		Value			t statistics			Significance		
X3 = Slack	Path	British n= 61	Saudi n= 47	Arab n= 34	British n= 61	Saudi n= 47	Arab n= 34	British n= 61	Saudi n= 47	Arab n= 34
Budgetary Participation X1	P3.1	-0.059	0.188	-0.188	-0.467	1.3	-1.04	ns	ns	ns
Locus of Control X2	P3.2	-0.27	-0.241	-0.206	-2.14	-1.67	-1.13	0.036	ns	ns
Constant					5.63	3.76	5.87	0	0	0

A-E-14	Hypothesis H-II.7									
		Value			t statistics			Significance		
X2 = Motivation	Path	British n= 58	Saudi n 41	Arab n= 30	British n= 58	Saudi n 41	Arab n= 30	British n= 58	Saudi n 41	Arab n= 30
Budgetary Participation X1	P2.1	0.008	0.116	0.176	0.057	0.727	0.994	ns	ns	ns
Constant					11.66	7.69	5.12	0	0	0
		Value			t statistics			Significance		
X3 = Performance	Path	British n= 58	Saudi n 41	Arab n= 30	British n= 58	Saudi n 41	Arab n= 30	British n= 58	Saudi n 41	Arab n= 30
Budgetary Participation X1	P3.1	0.541	0.04	0.581	4.98	0.248	3.69	0	ns	0.001
Motivation X2	P3.2	0.244	-0.02	0.059	2.24	-0.121	0.375	0.029	ns	ns
Constant					7.4	4.77	3.39	0	0	0.002

A-E-15	Hypothesis H-II.8									
		Value			t statistics			Significance		
X2 = Motivation	Path	British n= 60	Saudi n= 40	Arab n= 30	British n= 60	Saudi n= 40	Arab n= 30	British n= 60	Saudi n= 40	Arab n= 30
Budgetary Participation X1	P2.1	0.009	0.096	0.122	0.066	0.597	0.648	ns	ns	ns
Constant					12.15	6.56	5.55	0	0	0
		Value			t statistics			Significance		
X3 = Satisfaction	Path	British n= 60	Saudi n= 40	Arab n= 30	British n= 60	Saudi n= 40	Arab n= 30	British n= 60	Saudi n= 40	Arab n= 30
Budgetary Participation X1	P3.1	0.294	0.296	0.594	2.32	1.87	3.83	0.024	0.069	0.001
Motivation X2	P3.2	-0.005	-0.053	0.047	-0.042	-0.337	0.304	ns	ns	ns
Constant					7.3	5.95	2.34	0	0	0.027

A-E-16	Hypothesis H-II.10									
		Value			t statistics			Significance		
X2 = Ability to Detect Slack	Path	British n= 59	Saudi n= 48	Arab n= 34	British n= 59	Saudi n= 48	Arab n= 34	British n= 59	Saudi n= 48	Arab n= 34
Budgetary Participation X1	P2.1	0.145	0.199	0.267	1.1	1.37	1.56	ns	ns	ns
Constant					10.08	6.62	3.88	0	0	0
		Value			t statistics			Significance		
X3 = Slack	Path	British n= 59	Saudi n= 48	Arab n= 34	British n= 59	Saudi n= 48	Arab n= 34	British n= 59	Saudi n= 48	Arab n= 34
Budgetary Participation X1	P3.1	-0.16	0.171	-0.271	-1.207	1.14	-1.52	ns	ns	ns
Ability to Detect Slack X2	P3.2	-0.057	0.067	-0.061	-0.427	0.449	-0.34	ns	ns	ns
Constant					7.41	2.66	6.04	0	0.011	0

A-E-17	Hypothesis H-II.11									
		Value			t statistics			Significance		
X2 = Slack	Path	British n= 59	Saudi n= 45	Arab n= 32	British n= 59	Saudi n= 45	Arab n= 32	British n= 59	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P2.1	-0.072	0.184	-0.227	-0.542	1.22	-1.27	ns	ns	ns
Constant					10.04	3.97	6.84	0	0	0
		Value			t statistics			Significance		
X3 = Performance	Path	British n= 59	Saudi n= 45	Arab n= 32	British n= 59	Saudi n= 45	Arab n= 32	British n= 59	Saudi n= 45	Arab n= 32
Budgetary Participation X1	P3.1	0.565	0.101	0.489	5.11	0.652	2.95	0	ns	0.006
Slack X2	P3.2	0.008	-0.155	-0.023	0.073	-1	-0.136	ns	ns	ns
Constant					9.32	6.31	4.03	0	0	0

A-E-18	Hypothesis H-II.12									
		Value			t statistics			Significance		
X2 = Slack	Path	British n= 60	Saudi n= 43	Arab n= 31	British n= 60	Saudi n= 43	Arab n= 31	British n= 60	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P2.1	-0.116	0.223	-0.253	-0.893	1.46	-1.41	ns	ns	ns
Constant					10.94	3.62	6.75	0	0.001	0
		Value			t statistics			Significance		
X3 = Satisfaction	Path	British n= 60	Saudi n= 43	Arab n= 31	British n= 60	Saudi n= 43	Arab n= 31	British n= 60	Saudi n= 43	Arab n= 31
Budgetary Participation X1	P3.1	0.256	0.318	0.56	1.99	2.09	3.43	0.051	0.042	0.002
Slack X2	P3.2	-0.071	-0.256	0.04	-0.556	-1.69	0.248	ns	0.099	ns
Constant					8.78	8.07	2.84	0	0	0.008

Appendix F

Summary of Some of the Previous Results

Table A-E-1

Independent, dependent, moderating and intervening variables
for some of previous studies

	Budgetary Participation	Performance	Satisfaction	Budget Motivation	Budgetary Slack	Style of Evaluation	Leadership Style
Merchant 1981	INDEPENDENT			DEPENDANT		INDEPENDENT	
Merchant 1984		DEPENDANT					
Dunk and Lal 1995	INDEPENDENT				DEPENDENT		
Brownell 1981	INDEPENDENT	DEPENDENT					
Brownell 1982	INDEPENDENT	DEPENDENT	DEPENDENT				
Otley et al 1994	INDEPENDENT	DEPENDENT					
Searfoss & Monczka 1973	INDEPENDENT			DEPENDENT			
Dunk 1989	INDEPENDENT	DEPENDENT				MODERATING	
Govindarajan 1986	INDEPENDENT			DEPENDENT			
Dunk 1993	INDEPENDENT				DEPENDENT	MODERATING	
Krem 1992	INDEPENDENT	DEPENDENT					
Lal et al 1996	INDEPENDENT				DEPENDENT		
French 1960	INDEPENDENT		DEPENDENT				
Dunk 1990	INDEPENDENT	DEPENDENT				INTERVENING	

Table A-E-2

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Environment Uncertainty	Technology	Attitude	Information Asymmetry	Ability to Detect Slack	Budget Clarity	Locus of Control
Merchant 1981							
Merchant 1984		MODERATING					
Dunk and Lal 1995		MODERATING					
Brownell 1981							
Brownell 1982							
Otley et al 1994							MODERATING
Searfoss & Monczka 1973							
Dunk 1989							
Govindarajan 1986	MODERATING						
Dunk 1993				MODERATING			
Krem 1992							
Lal et al 1996					MODERATING		
French 1960							
Dunk 1990							

Table A-E-3

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Budget Difficulty	Job Difficulty	Reward System	Job Involvement	Diversity	Centralization	Organization Size
Merchant 1981					DEPENDENT	DEPENDENT	DEPENDENT
Merchant 1984							
Dunk and Lal 1995							
Brownell 1981							
Brownell 1982							
Otley et al 1994							
Searfoss & Monczka 1973			DEPENDENT				
Dunk 1989							
Govindarajan 1986							
Dunk 1993							
Krem 1992							
Lal et al 1996							
French 1960							
Dunk 1990							

Table A-E-4

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Budgetary Participation	Performance	Satisfaction	Budget Motivation	Budgetary Slack	Style of Evaluation	Leadership Style
Harrison 1992			DEPENDENT			INDEPENDENT	
Searfoss 1976	INDEPENDENT			DEPENDENT			
Otley 1978		DEPENDENT				INDEPENDENT	
Hopwood 1973	MODERATING					INDEPENDENT	
Collins, et al 1987							INDEPENDENT
Frucot and Shearon 1991	INDEPENDENT	DEPENDENT	DEPENDENT				
Mia 1987	INTERVENING						
Mia 1988	INDEPENDENT	DEPENDENT		MODERATING			
Mia 1989	INDEPENDENT	DEPENDENT					
Onsi 1973	INDEPENDENT				DEPENDENT	INDEPENDENT	
Bruns and Waterhous 1975	DEPENDENT		DEPENDENT				
Brownell & McIness 1986	INDEPENDENT	DEPENDENT		INTERVENING			
Licata 1986	DEPENDENT						
Hopwood 1974						DEPENDENT	INDEPENDENT

Table A-E-5

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Environment Uncertainty	Technology	Attitude	Information Asymmetry	Ability to Detect Slack	Budget Clarity	Locus of Control
Harrison 1992							
Searfoss 1976						DEPENDENT	
Otley 1978							
Hopwood 1973							
Collins, et al 1987			DEPENDENT				
Frucot and Shearon 1991							MODERATING
Mia 1987						INDEPENDENT	INDEPENDENT
Mia 1988							
Mia 1989	MODERATING						
Onsi 1973			DEPENDENT				
Bruns and Waterhous 1975		INDEPENDENT					
Brownell & McIness 1986							
Licata, et al 1986							INDEPENDENT
Hopwood 1974							

Table A-E-6

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Budget Difficulty	Job Difficulty	Reward System	Job Involvement	Diversity	Centralization	Organization Size
Harrison 1992							
Searfoss 1976	INDEPENDENT						
Otley 1978							
Hopwood 1973							
Collins, et al 1987							
Frucot and Shearon 1991							
Mia 1987							
Mia 1988							
Mia 1989		MODERATING					
Onsi 1973							
Bruns and Waterhous 1975					INDEPENDENT	INDEPENDENT	INDEPENDENT
Brownell & McIness 1986							
Licata 1986							
Hopwood 1974							

Table A-E-7

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Budgetary Participation	Performance	Satisfaction	Budget Motivation	Budgetary Slack	Style of Evaluation	Leadership Style
Brownell 1983	MODERATING	DEPENDENT	DEPENDENT				INDEPENDENT
Shields and Young 1993	INTERVENING	DEPENDENT					
Orpen 1992	INDEPENDENT	DEPENDENT					
Brownell 1982	INDEPENDENT	DEPENDENT	DEPENDENT				
Ezzamel 1990	DEPENDENT						
Lal and Dunk 1996							
Nouri and Parker 1996	INDEPENDENT				DEPENDENT		

Table A-E-8

Independent, dependent, moderating and intervening variables
for Some of previous studies

	Environment Uncertainty	Technology	Attitude	Information Asymmetry	Ability to Detect Slack	Budget Clarity	Locus of Control
Brownell 1983							
Shields and Young 1993							
Orpen 1992							
Brownell 1982							
Ezzamel 1990	DEPENDENT						
Lal and Dunk 1996							
Nouri and Parker 1996							

Table A-E-9

Independent, dependent, moderating and intervening variables
for some of previous studies

	Budget Difficulty	Job Difficulty	Reward System	Job Involvement	Diversity	Centralization	Organization Size
Brownell 1983							
Shields and Young 1993			INTERVENING				
Orpen 1992		MODERATING					
Brownell 1982							
Ezzamel 1990							
Lal and Dunk 1996							
Nouri and Parker 1996				MODERATING			